

BUTANE-PROPANE

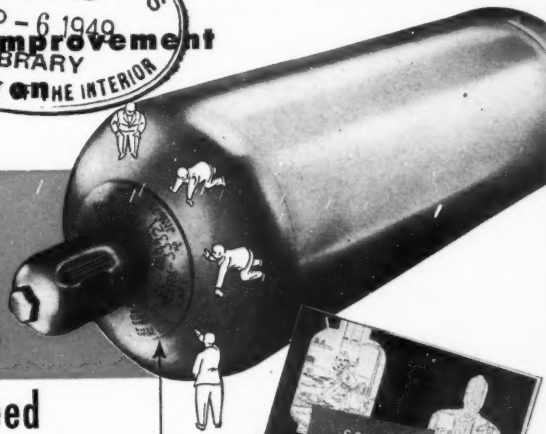
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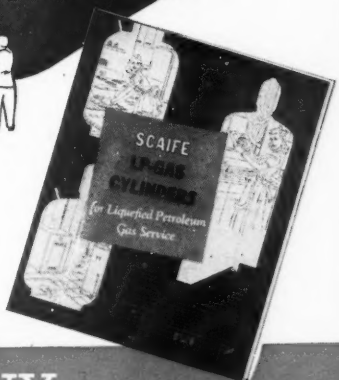
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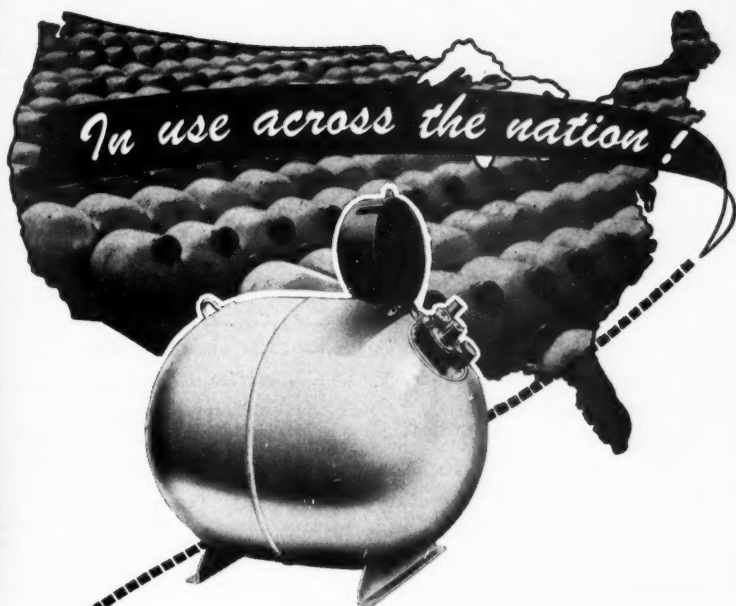
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SEPTEMBER — 1949



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LETTERS

- **BUTANE-PROPANE** *News* welcomes letters from our readers, but it must be understood that this magazine does not necessarily concur in opinions expressed by them.—Editor.

Gentlemen:

Should separate vents be constructed for furnace installations?

B.G.C.

Illinois

In most cases, it is desirable to have a separate flue connection and in some cities, this is required by ordinance.

Proper venting has a lot to do with efficiency and satisfaction of operation of the gas furnace and in a case where a new installation is being made, we would recommend that a separate vent be used.—Ed.

Gentlemen:

A local institution is considering the installation of a standby boiler of 100 hp capacity, to be operated by propane.

We would like to know if a 1000 W.C. propane tank would vaporize fast enough to supply sufficient fuel in extremely cold weather. Also what size regulator would you recommend?

F.S.P.

Washington

A 100 hp boiler under normal rating and 80% efficiency will use about 4,200,000 Btu per hour. It is quite normal, depending upon the type of boiler, to run with overloads of 50 to 100%.

Assuming a 50% overload, the load would be over 6,000,000 Btu per hour, or about 70 gallons.

A 1000 gallon tank would be entirely too small for such an installation, both for vaporizing and storage capacity.

We would suggest a 10,000 gallon tank with means for vaporizing the fuel in extremely cold weather.—Ed.

Gentlemen:

We are interested in carburetion for trucks and tractors to use propane.

We notice that one of the carburetor suppliers recommends that the oil companies be consulted as to the kind of cylinder oil to be used. Can you give us this information?

C.W.L.

Indiana

Our experience with various types of oils used in trucks and tractors is that highest grade of either paraffin or asphalt base oils be used.

Due to the fact that liquefied petroleum gas is a solvent, if any excess gum is in the oil, under cold weather starting or running where a saturated mixture is drawn into the combustion chamber, this excess gum may be separated from the oil and deposited under the rings and cause sticking and excess wear.—Ed.

Gentlemen:

We are seeking information on relative fuel costs in domestic house heating. This will, of course, vary in the different sections of the country, depending upon the degree days and the price of the liquefied petroleum gas.

In the Dayton, Ohio, area it is estimated that a 6-room house will require 92,400,000 Btu delivered to the house in the average heating season. Based upon using LP-Gas, or 21,500 Btu per pound, and based on a furnace efficiency of 80%, the heating requirement stated above would approximate 5372 pounds.

Quotations in this area are given

to us as \$7.75 per 100 pounds to the consumer providing 10 or more tanks are used per year. This would add up to a heating cost of approximately \$416 per year if our figures are correct.

We will appreciate your telling us if there is any discrepancy in these figures and advising us if consumer costs are materially less in other sections of the country.

W.B.S.

Ohio

Your figures as to consumption and pound use are essentially correct. However, at \$7.75 per hundred, LP-Gas would be out of the question for heating excepting some small spot heating.

The price of the fuel delivered varies according to location and the type of distribution, from a low of 1½ to 2 cents per pound to even higher than the figure quoted you.

In the areas where it is competitive with fuel oil prices, a large amount is used for heating. "The Bottled Gas Manual," published by us, gives comparative costs of using LP-Gas with oil, coal, wood, and electricity.—Ed.

Gentlemen:

We are having difficulty reconciling the reading on Sprague "O" and Emco "OO" meters with the amount of gallons used from the storage tank. These meters read in cubic feet.

Is there a temperature correction factor which should be used with the reading of the vapor meter? Or is the reading of the vapor meter based on 36.45 cubic feet per gallon at atmospheric pressure so that a correction factor should be used because the gas goes through the meter under 11 inch W. C. pressure?

M. S.

California

The figure 36.45 cubic feet per gallon is for propane at 60°F and 14.73 pounds per square inch absolute. The meter reading must be corrected for both pressure and temperature for correct correlation.

If there is some butane in your propane or

if you are using an LP-Gas mix, the figure 36.45 must be corrected to the proper amount for the fuel vaporized.

The temperature correction is:

(Temperature)	(Temperature)
30°—1.0612	65°— .9905
35°—1.0505	70°— .9811
40°—1.0400	75°— .9720
45°—1.0297	80°— .9630
50°—1.0196	85°— .9541
55°—1.0097	90°— .9455
60°—1.000	

The pressure correction for 11 inches water column is 1.027.

Multiply the amount recorded by the meter by both the temperature and pressure correction factors to get standard cubic feet at 60° and divide this by 36.45 to get gallons of propane at 60°F.

Example:

$$\begin{aligned}
 \text{Meter Volume} &= 100 \text{ cu. ft.} \\
 \text{Pressure Factor} &= 1.027 \\
 \text{Temp. } 50^\circ\text{F factor} &= 1.0196 \\
 100 \times 1.027 \times 1.0196 &= 104.71 \text{ cu. ft.} \\
 \frac{104.71}{36.45} &= 2.865 \text{ gallons}
 \end{aligned}$$

—Ed.

Gentlemen:

How high a compression pressure should be and can be used on a Dodge truck motor—Model T120-T130, 6 cylinder L head, 3⅞ in. bore, 4½ in. stroke, 250.6 cu. in. displacement?

Do you recommend any change in ignition system due to change in increase in compression?

Can I change the compression ratio, or is there a special head?

Can you furnish me with a chart giving characteristic curve of horsepower, also torque and fuel consumption with increased compression?

W.F.M.

Oklahoma

A 7½ to 1 compression ratio is the highest that you can use on a Dodge T120-130. This can be obtained by planing 0.070 inches from the head.

To operate at this ratio, it will be necessary to improve the ignition system, using a Mallory heavy duty coil and condenser. The ignition system will have to be maintained in good condition to operate at the higher compression pressures.

We cannot send you horsepower curves but I am enclosing a reprint of an article on auto-

motive changeovers that was formerly published in BUTANE-PROPANE News and which I am sure will be helpful to you.—Ed.

Gentlemen:

We are in need of information for a proposed propane gas heating system in a nearby church, and also a school. Both of these jobs are to be heated with Bros steam boilers.

The gross load (sq. ft. steam) on one unit is 2680, the other is 4200 sq. ft. steam. One building has a 21 by 16 in. flue, the second has a 14 by 14 in. flue—both of them are brick construction with no linings.

What size storage tanks would you recommend for each job, or for a combination of the two?

What would be the approximate increase of heating cost over oil?

Could the present chimneys be used without liners? They are in excellent condition at the present time.

R.B.G.

Iowa

From "The Bottled Gas Manual," Page 315, the heating cost per season =
Gas Requirement Factor \times Actual Sq. Ft. Steam Radiation Required \times Degree Days \div 1000 \times Btu Value of Gas per Cubic Foot = Fuel Cost Per 1000 Cubic Feet.

Therefore, your cost will be:

$$96 \times 2680 \times 7103$$

$$\frac{1000 \times 2519}{\times \text{Cost per 1000 cubic feet.}}$$

$$1 \text{ sq. ft. of steam heating surface} = 240 \text{ Btu.}$$

$$\text{The church load would be } 2680 \times 240 = 643,000 \text{ Btu hr.}$$

$$\text{The school load would be } 4200 \times 240 = 1,008,000 \text{ Btu per hr.}$$

We would recommend a minimum of a 1000 gallon tank for each installation.

You can compare your heating cost with oil based on a Btu comparison as the efficiency, if well maintained, will be about the same. There will be considerable additional

labor on maintenance on the oil job to keep the efficiency up.

We would recommend lining the flues with a metal flue pipe of the proper size as draft conditions make a big difference in efficiency.

—Ed.

Gentlemen:

May I ask your advice on two problems we are having in the adjustment of stoves. We are handling several of the nationally famous brands of stoves. These problems are not confined to any one make of stove.

Our first question is, why is it that one can set the pilot of a stove so as to function perfectly during the day and almost every night this pilot light will go out, or if it doesn't go out, it will get so low that it won't kick on the lights in the early morning?

Our second question, why is it that on some stoves one can never adjust the pilot light so that it will not quit flickering. It will function perfectly, except it flickers continuously.

J.M.F.H.

Kentucky

The first question appears to us to be regulator trouble. It is possible that with sufficient pressure on the upstream side of the regulator in daytime satisfactory pilot light performance is obtained. At night when the pressure on the tank drops, it may be going so low that the pressure on the downstream side is lowered enough to cause pilot failure.

It also may be due to the difference between lock-up pressure and drop required to make the regulator function if the only load is the pilot light.

Flickering in the pilot sounds like too much air. It may be the pilot orifice is blocked with a speck of dust or the pilot orifice size is not correct.—Ed.





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COMMENT

A return to a normal state of business is seen by the Buehler Tank and Welding Works, Los Angeles,



W. A. Buehler

according to Walter A. Buehler, president of the company, who is now celebrating his 30th anniversary in business. Mr. Buehler has been a leader in the LP-Gas industry for many years and points to the error of our ways when we compare present business conditions with those of two or three years ago.

Mr. Buehler states, "We are again, after eight years of artificial business stimulation, reaching the point where the advantages of our free enterprise system have begun to manifest themselves. With forces of supply and demand becoming more effective, our present period of adjustment can be viewed as a challenge to our manufacturing and merchandising techniques rather than as a sign of troublesome times ahead."

"Few industries in the country face greater future possibilities for growth and expansion than does our own LP-Gas industry. We are serving a stable farm market with tremendous buying power."

"We are not pessimistic over the fact that business is back where competition in a open market again exists. The late Henry Ford once said, 'A chicken is never so healthy as when it has to scratch for its food.'"

"We can see no reason to fear a

buyer's market—in fact, we welcome it."

This is good philosophy and a good analysis of current conditions. If pessimistically inclined dealers would accept Mr. Buehler's viewpoint and start aggressive selling campaigns, they would have a lot less time to worry and complain about a slackening market and a lot more business on the books.



J. C.

W. G.



Duncan & Duncan

Think these Duncans look alike? We don't either, but last month they got mixed up, just the same.

A story from Oregon told about Jim Duncan, but we ran the picture of W. G. Duncan, last year's president of the Ohio LPGA.

Here's how: The cuts were tagged incorrectly. So what could the poor compositor do but follow instructions?

We don't think either one of the LP-Gas men should feel offended, but neither do we expect them to glow with satisfaction.

There's always something happening to mar a week-end.

By Ed.

Why The NORMAN SOUTHERNER Was Selected To Heat The First Revere Quality House

It was only natural that a new and better type home such as the first Revere Quality House built in Houston, Texas, would select a new and better type of heating equipment such as the new Norman Southerner horizontally designed forced air gas furnace.

This revolutionary method of forced air central heating was developed by Norman engineers for small space and low cost heating installations. It permits a minimum of heating space in new home

construction because it can be installed in the attic, closet, under floor, ceiling or stairs, or on service porches. The Southerner meets all safety requirements of AGA for this type of installation. Ideal for replacement.

Operates on natural, mixed, manufactured or LP gas. Performance-proven in thousands of installations. Available in 30,000, 60,000, 80,000 and 100,000 BTU. in both Furnace and Unit Heater Models.

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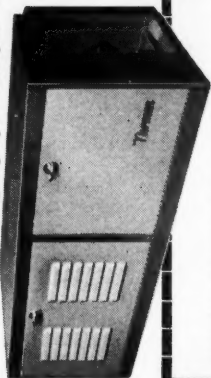
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ADDRESS.....
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Model illustrated: FUR-100, size
21 1/2" high by 23" wide by 52" long.



BEYOND THE MAINS

PERHAPS this will emphasize further the need of educating the public, including even the intelligent public, on the subject of butane and propane:

In a little discussion the writer had with a prominent speaker, a well known college professor, who has addressed large gatherings of utility gas men, it appeared the professor was very uncertain as to what LP-Gas is. He may have heard of it, but it didn't seem to have registered. The phone book indicates he lives on a fashionable avenue in the middle of a very large city, well within the gas mains. Maybe some day he'll buy a country place, and be a prospect for a bottled gas man. Before this happens, let's be sure the professor is educated!

•

Incidentally, the insurance man who told the above story is another one of the amazing examples we've been encountering lately of lack of information on the part of otherwise well-informed people on the subject of LP-Gas. He'd heard of its use for cooking in homes but, although from the South, he apparently hadn't heard of it for cotton gins or flame weeding. He didn't know how it was transported or sold in bulk and cylinders.

One of the functions that will be accomplished by industry publicity, advertising and promotion, in addition to what it will do directly for sales, will be the spreading of correct information to the general public about just what the fuel is and will do. Better get the right story out, before incorrect and damaging yarns are spread among people who don't know the facts and thus are prey to falsehoods and half truths.

•

One doesn't have to look far to see what damage misinformation can do. Last fall the "Kentucky Electric Co-op News" mentioned some staggering figures on accidents. And from the way the article was written one would probably conclude that the total figures on home accidents of all types put out by the National Safety Council were the figures on LP-Gas accidents, alone. Later, the Kentucky publication printed a retraction. The member of the industry who wrote the Federal Trade Commission about it deserves an oscar, as does the Commission, itself, for fairness on such matters, once they're called to the Commission's attention.

Doubtless it would be too much to expect the Kentucky publication, now that they've retracted, to print the true facts about comparison of electricity and gas on fire losses, or discuss the electric shock hazard.

Not many consumers have known about the excise taxes on ranges, water heaters and refrigerators. They're paid by the manufacturer and then necessarily passed on to consumers.

There is a move in Congress to repeal these taxes, along with other excises.

Meanwhile, if action is not taken at this session of Congress there will be no reason for a consumer or buyer to delay purchase with the possibility in mind of excise tax elimination in the near future.

•

An all-time record number of retailers—3100—attended the opening of the 58th annual summer furniture market in New York. Exhibitors held prices firm and did not ease them below the 5 to 10% cuts that had been in effect since May.

Attendance at this market shows that the people who sell furniture are on their toes and expecting to get business. And people who buy furniture, if they live beyond the mains, are prospects also for LP-Gas service and appliances.

•

Lee Brand was amazed at the amount of electric range propaganda a 19 year old typist, who had just gone to work for a utility in Missouri, had absorbed. She'd been at work only a few weeks and was telling everyone about the wonders of electricity. It was all part of this utility's indoctrination program. Let's do the same for everyone who goes to work for a butane-propane organization.

•

The Washington bureaucrats, who so far have turned down the request of the LP-Gas industry for treatment equal to that of the electric industry in the census of 1950, need to wake up. To date, it seems, LP-Gas has been brushed off with a sneer. When these chair warmers go for their week-end drives in Maryland and Virginia this hot weather they ought to look around a bit and see what goes on beyond the mains.

All they'd need would be to keep their eyes open a few miles west of the Potomac. And perhaps their scoffing would take a different tone.

Motto of present government people seems to be "Billions for REA co-ops" but not one cent even for properly organized census questions on LP-Gas.

Don't worry. Some day the giant butane-propane industry will get itself organized. There are plenty of votes among the independent business men and five million homes served by this ten billion dollar industry. Some day the industry will show Washington the Paul Bunyan it really is. Meanwhile keep up the fight for a decent break on the census questionnaire forms.

Ed Titus

First Time Out:

Regional Sales Breakdown

This year, for the first time, the U. S. Bureau of Mines has broken down the national sales of LP-Gas into five geographical districts and has shown within those districts the percentages and volumes of gas sold. Tables and graphs herewith tell the comparative story.

DURING 1948 liquefied petroleum gas sales continued the steady growth which it has consistently shown during the past decade. There were 2,736,801,000 gallons of liquefied petroleum gases delivered to consumers in the United States during 1948, a total representing 23.8% increase over sales of 2,209,797,000 gallons in 1947, according to a survey made by the Petroleum Economics Branch, Bureau of Mines, U. S. Department of the Interior. The increase in 1948 in marketed LP-Gas over that sold in 1947 was greater than the total quantity of liquefied petroleum gases delivered during 1941. Records compiled by the Bureau of the Census, U. S. Department of Commerce, show exports of 45,520,000 gallons of LP-Gas in 1948 compared with 53,233,000 gallons in 1947.

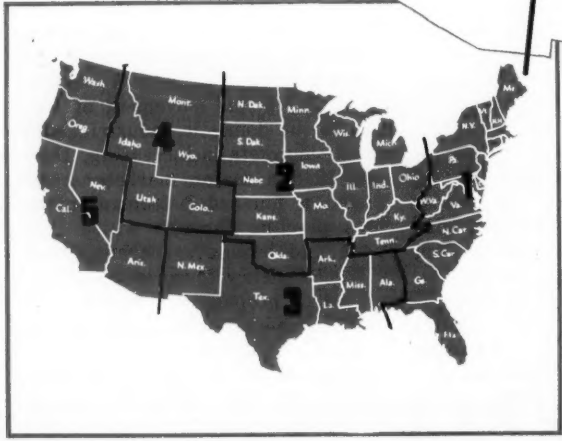
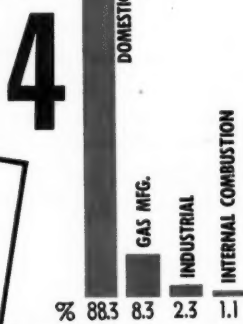
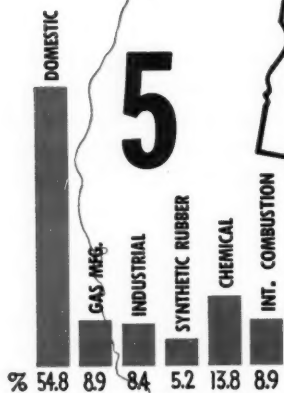
New sources of production of LP-Gas together with enlarge-

ments of existing producing facilities have increased the supply during the past year to keep pace with the increase in demand. Great results have been accomplished in increasing the storage capacity at consumers' installations. Transportation facilities, both tank cars, tank trucks and vessels have been adequately increased to handle the greater amount of LP-Gas marketed. The pipeline movement of LP-Gas to the domestic, industrial, and utility markets is increasing. During 1948 a major marketer completed a finished petroleum products pipeline through which propane and butane are transported.

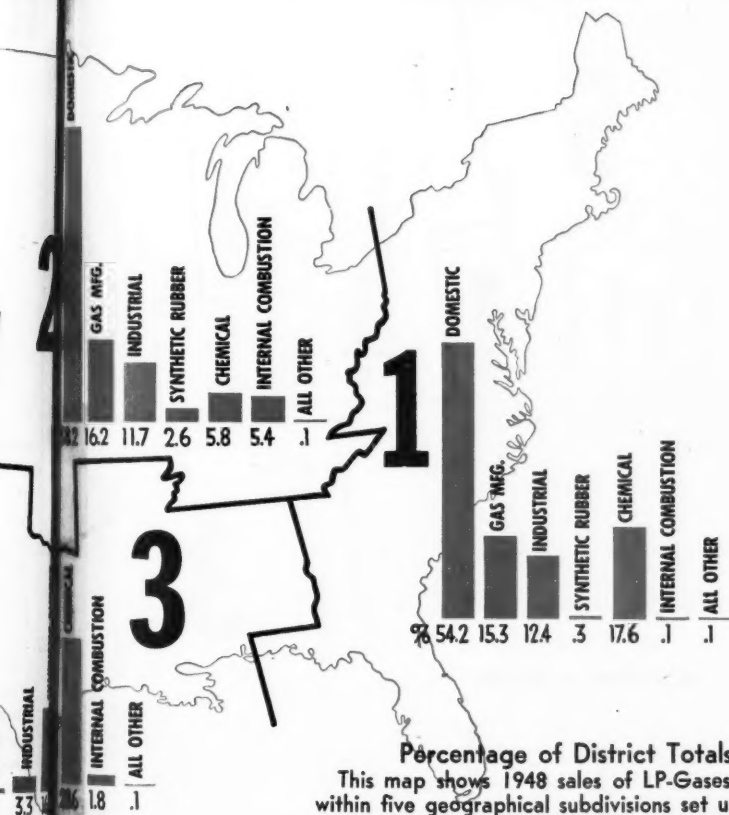
The tendency towards the greater use of propane gas shows a remarkable increase, as 1,279,744,000 gallons were delivered in 1948, comprising 46.8% of the total sales. Comparing 1948 sales of propane with propane sales in 1944, the first year in which liquefied petroleum

THE DISTRICT PICTURE

A PERCENTAGE COMPARISON



E RISO OF LP-GAS SALES WITHIN EACH DISTRICT BY USES



Percentage of District Totals

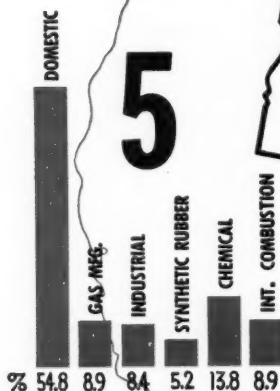
This map shows 1948 sales of LP-Gases by uses within five geographical subdivisions set up by the U. S. Bureau of Mines. Figures are broken down into comparative percentages within districts.

Example: The domestic sales in District 3 show 48.9% of the total sales in that district, and the figures within any district, added together, total 100% of all fuel used within a given district.

Thus, at a glance it is easy to see the district distribution breakdown and compare one district with another.

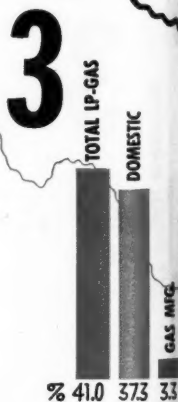
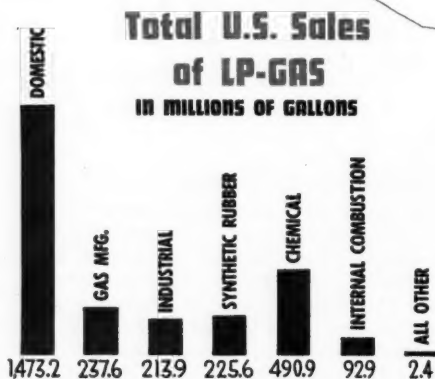
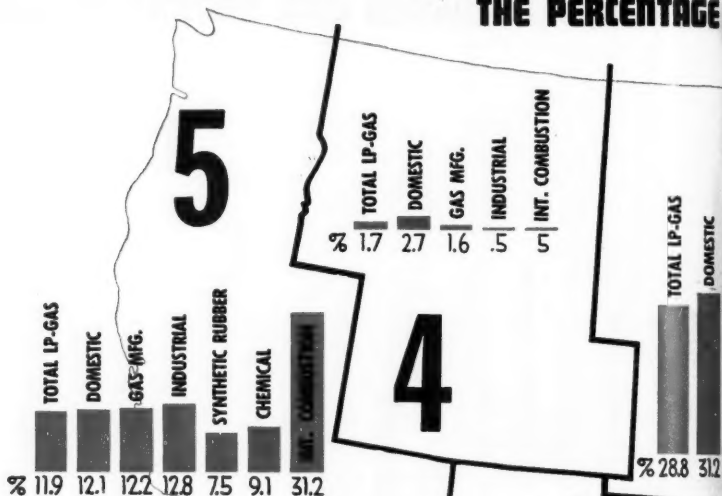
THE DISTRICT PICTURE

A PERCENTAGE COMPARISON

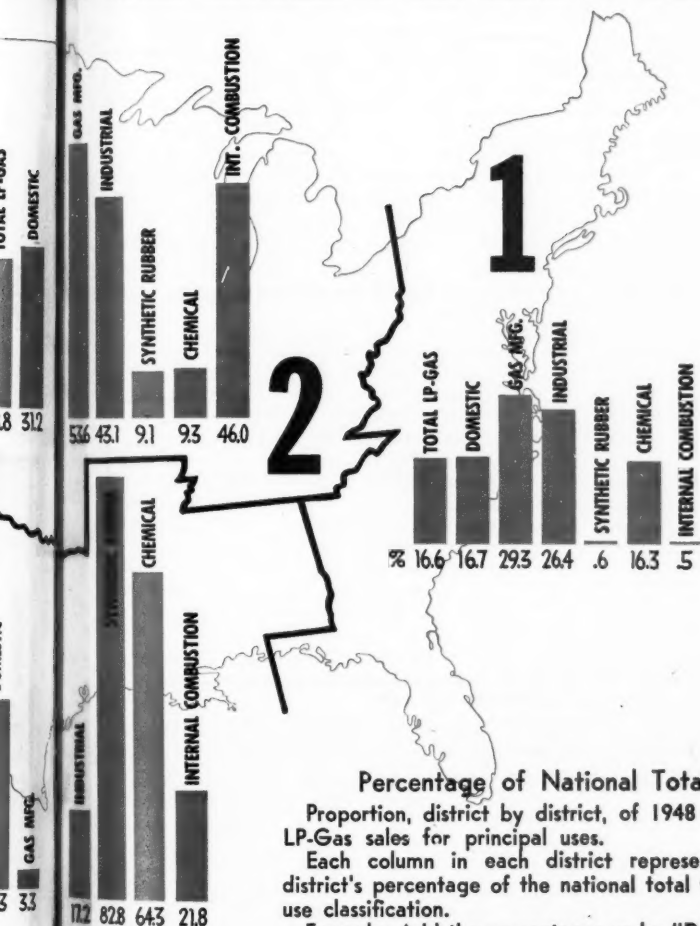


THE NATIONAL PICTURE

THE PERCENTAGE



AGE OF TOTAL NATIONAL LP-GAS SALES BY DISTRICTS



Percentage of National Total

Proportion, district by district, of 1948 national LP-Gas sales for principal uses.

Each column in each district represents that district's percentage of the national total for each use classification.

Example: Add the percentages under "Domestic" in the 5 districts to obtain a total of 100%.

Thus, District 2 has 31.2% of the total national domestic sales.

TABLE 1. SALES OF LIQUEFIED PETROLEUM GASES IN THE UNITED STATES
(Thousands of Gallons)

Year	Butane	Percent of Total	Propane	Percent of Total	Butane- Propane Mixture	Percent of Total	Total LP-Gas	Per- cent	Percentage Change From Previous Year
1944	273,116	25.8	335,884	31.7	451,156	42.5	1,060,156	100.0	...
1945	325,140	25.5	444,581	34.8	507,045	39.7	1,276,766	100.0	20.4
1946	441,418	25.9	551,250	32.3	711,594	41.8	1,704,262	100.0	33.5
1947	398,635	18.0	863,686	39.1	947,476	42.9	2,209,797	100.0	29.7
1948	512,615	18.7	1,279,744	46.8	944,442	34.5	2,736,801	100.0	23.8

TABLE 2. TRENDS IN THE SALES OF LP-GAS BY PRINCIPAL USES
(Thousands of Gallons)

Year	Domestic	Chemical	Synthetic Rubber	Industrial	Gas Mfg.	Internal Combustion	All Other	Total
1940	134,018	34,671	.....	69,892	20,285	53,918	672	313,456
1941	220,722	44,206	.....	98,728	25,255	66,871	7,070	462,852
1942	299,559	53,038	.....	114,132	31,366	82,456	4,889	585,440
1943	339,380	55,356	1	149,249	37,519	87,834	5,715	675,233
1944	445,617	151,985	162,085	162,018	45,879	92,495	77	1,060,156
1945	533,262	224,291	208,787	163,121	53,849	93,340	116	1,276,766
1946	758,466	311,499	293,892	159,115	86,660	94,592	38	1,704,262
1947	1,150,538	414,267	201,535	173,601	169,332	99,786	738	2,209,797
1948	1,473,289	490,964	225,641	213,904	237,638	92,941	2,424	2,736,801

1 Included in All Other.

**TABLE 3. RELATIVE RANK OF THE PRINCIPAL USES OF LP-GAS
ON A PERCENTAGE BASIS**

Year	Domestic	Chemical	Synthetic Rubber	Industrial	Gas Mfg.	Internal Combustion	All Other	Total
1940	42.7	11.1	...	22.3	6.5	17.2	0.2	100.0
1941	47.7	9.6	...	21.3	5.5	14.4	1.5	100.0
1942	51.2	9.1	...	19.5	5.3	14.1	0.8	100.0
1943	50.3	8.2	...	22.1	5.6	13.0	0.8	100.0
1944	42.0	14.4	15.3	15.3	4.3	8.7	1	100.0
1945	41.8	17.6	16.3	12.8	4.2	7.3	1	100.0
1946	44.5	18.3	17.2	9.3	5.1	5.6	1	100.0
1947	52.1	18.7	9.1	7.9	7.7	4.5	1	100.0
1948	53.8	17.9	8.3	7.8	8.7	3.4	0.1	100.0

1 Less than .05 percent.

gas was widely used as a synthetic rubber component, the proportion of propane sales was 31.7% of the 1944 total 335,884,000 gallons. Using the same year as a comparison, the proportions for butane declined from 25.8% in 1944 to 18.7% in 1948 and those for butane-propane mixture also decreased from 42.5% in 1944 to 34.5% in 1948.

With the cooperation of the liquefied petroleum gas industry, the distribution of the sales of LP-Gas is shown by five marketing districts for the first time in 1948. The states in these districts are as follows:

District 1—Maine, New Hampshire, Vermont, Massachusetts, Rhode Island, Connecticut, New York, New Jersey, Pennsylvania, Delaware, Maryland, District of Columbia, Virginia, West Virginia, North Carolina, South Carolina, Georgia, and Florida.

District 2—North Dakota, South Dakota, Minnesota, Nebraska, Iowa, Wisconsin, Illinois, Indiana, Michigan, Ohio, Kentucky, Tennessee, Missouri, Kansas, and Oklahoma.

District 3—New Mexico, Texas, Arkansas, Louisiana, Mississippi, and Alabama.

District 4—Idaho, Montana, Wyoming, Utah, and Colorado.

District 5—California, Oregon, Washington, Arizona, and Nevada.

States comprising District 3, where the largest proportion of LP-Gas was marketed, accounted for 1,122,800,000 gallons, or 41% of the national sales. District 2 followed with 788,142,000 gallons, or 28.8%. Sales in District 1 amounted to 454,555,000 gallons, or

This report was prepared by A. T. COUMBE, petroleum economist, petroleum economics branch, economics and statistics division, Bureau of Mines, and I. F. AVERY, commodity specialist, petroleum economics branch, economics and statistics division, Bureau of Mines. The survey in District 5 was made by E. T. KNUDSEN, supervising economist of the Bureau of Mines at Los Angeles.

16.6% of the total, while in District 5 sales were 11.9% of the total deliveries. Only 1.7% of the total was marketed in District 4.

Domestic or Residential (Household) and Commercial—The volume of LP-Gas sold for domestic and commercial purposes was 1,473,289,000 gallons in 1948. This represents 53.8% of the total LP-Gas marketed, and is an increase of 28.1% over the 1,150,538,000 gallons sold for the same purpose in 1947.

The total quantity sold for domestic and commercial uses in 1948 is greater than the total quantity of LP-Gas sold for all purposes in 1945, just 3 years prior. The large demand for this product for homes, farms, institutions and commercial establishments located beyond the gas mains is clearly indicated.

The greater relative increase in domestic sales is reported in butane, as the sales of 113,001,000 gallons of butane sold in 1948 were 82% over the 62,082,000 gallons of butane marketed for domestic use in 1947.

However, propane sold for domestic purposes comprised 52% of the LP-Gas used in domestic trade

TABLE 5. SALES OF LIQUEFIED PETROLEUM GASES, 1948
(Thousands of Gallons)

Table 5. Continued on Next Page.

Principal Uses	Distribution by Districts				
	1	2	3	4	5
Butane					
Domestic & Commercial	17,159	22,419	58,986	7,595	6,842
Gas Manufacturing	20,521	36,445	2,206	2,588	1,812
Industrial Plants	7,042	43,414	13,352	-	2,678
Synthetic Rubber	563	19,311	159,197	-	15,706
Chemical Plants	178	-	44,005	-	10,203
Internal Combustion	380	16,491	49	6	3,093
All Other Uses	1	54	319	-	-
Total Butane Sales	45,844	138,134	278,114	10,189	40,334
Propane					
Domestic & Commercial	193,515	317,068	138,260	28,643	88,467
Gas Manufacturing	45,156	69,890	1,802	-	16,227
Industrial Plants	48,135	40,095	12,270	1,033	10,757
Synthetic Rubber	870	1,267	785	-	1,203
Chemical Plants	4,915	785	209,256	-	34,697
Internal Combustion	52	7,514	1,004	41	5,521
All Other Uses	283	232	1	-	-
Total Propane Sales	292,926	436,851	363,378	29,717	156,872
Butane-Propane Mixture					
Domestic & Commercial	35,670	119,667	351,852	4,325	82,821
Gas Manufacturing	3,906	20,990	3,775	1,243	11,077
Industrial Plants	1,336	8,785	11,156	-	13,851
Synthetic Rubber	-	2	26,737	-	-
Chemical Plants	74,873	44,706	67,346	-	-
Internal Combustion	-	18,754	19,231	453	20,352
All Other Uses	-	253	1,281	-	-
Total B-P Mixture Sales	115,785	213,157	481,378	6,021	128,101
Total LP-Gas					
Domestic & Commercial	246,344	459,154	549,098	40,563	178,130
Gas Manufacturing	69,583	127,325	7,783	3,831	29,116
Industrial Plants	56,513	92,294	36,778	1,033	27,286
Synthetic Rubber	1,433	20,580	186,719	-	16,909
Chemical Plants	79,966	45,491	320,607	-	44,900
Internal Combustion	432	42,759	20,284	500	28,966
All Other	284	539	1,601	-	-
Total U.S. Sales	454,555	783,142	1,122,870	45,927	325,307
Exports					
Grand Total Sales					

Table 5 Continued
from Opposite Page

Total Sales		Percent Change 1948 to 1947
1948	1947	
113,001	62,092	82.0
63,572	58,424	8.8
66,486	61,901	7.4
194,777	187,733	3.8
54,386	18,796	189.3
20,019	9,662	107.2
374	27	1285.2
512,615	398,635	28.6
765,953	503,448	52.1
133,075	77,110	72.6
112,290	83,108	35.1
4,125	4,558	- 9.5
249,653	182,388	36.9
14,132	12,595	12.2
516	479	7.7
1,279,744	863,686	48.2
594,335	584,998	1.6
40,991	33,798	21.3
35,128	28,592	22.9
26,739	9,244	189.3
186,925	213,083	- 12.3
58,790	77,529	- 24.2
1,534	232	561.2
944,442	947,476	- 0.3
1,473,289	1,150,538	28.1
237,638	169,332	40.3
213,904	173,601	23.2
225,641	201,535	12.0
490,964	414,267	18.5
92,941	99,786	- 6.9
2,424	738	228.5
2,736,801	2,209,797	23.8
45,520	53,233	- 14.5
2,782,321	2,263,030	22.9

and there were 765,953,000 gallons of propane sold for the domestic and commercial uses in 1948, which is 52.1% above 1947 sales of 503,448,000 gallons. Butane - propane mixture only increased 1.6%, as 594,335,000 gallons were marketed in 1948 compared with 584,998,000 gallons sold for domestic and commercial purposes in 1947.

District 3 is reported as having the largest market for LP-Gas in the domestic trade as 37.3% of the national demand for LP-Gas for domestic and commercial use was sold in that area. Following were District 2 with 31.2%; 16.7% in District 1; 12.1% in District 5; and 2.7% in District 4. However, in District 4 over 88% of all LP-Gas sold was for domestic use.

For gas manufacturing use, for distribution through mains, 237,638,000 gallons were sold in 1948, an increase of 40.3%.

Town Plants Increase

According to the American Gas Association, liquefied gases, as of June 1, 1949, were being delivered through mains in 476 communities by 195 companies in 41 states during 1948, an average of 318,100 customers were served with LP-Gas by utilities, with break-down as follows:

Butane-air gas and propane-air with heating value ranging from 525 to 1600 Btu per cubic foot were supplied to 399 communities in 38 states.

A mixture of undiluted butane and propane gases with a heating value of 2800 to 3500 Btu per cubic foot was supplied to 18 communi-

**TABLE 7. PERCENTAGES OF THE SALES OF LP-GASES
BY DISTRICTS FOR PRINCIPAL USES**

1/ Less than .05%.

Principal Uses	Districts					Total	
	1	2	3	4	5	1948	1947
Butane	100.0	100.0	100.0	100.0	100.0	100.0	100.0
Domestic	37.4	16.3	21.2	74.5	17.0	22.0	15.6
Gas-Manufacturing	44.8	26.4	.8	25.4	4.5	12.4	14.7
Industrial Plants	15.4	31.4	4.8	-	6.6	13.0	15.5
Synthetic Rubber	1.2	14.0	57.3	-	38.9	38.0	47.1
Chemical	.4	-	15.8	-	25.3	10.6	4.7
Internal Combustion	.8	11.9	1/	0.1	7.7	3.9	2.4
All Other Uses	1/	1/	0.1	-	-	0.1	1/
Propane	100.0	100.0	100.0	100.0	100.0	100.0	100.0
Domestic	66.1	72.6	38.0	96.4	56.4	59.9	58.3
Gas-Manufacturing	15.4	16.0	0.5	-	10.3	10.4	8.9
Industrial Plants	16.4	9.2	3.4	3.5	6.9	8.8	9.6
Synthetic Rubber	0.3	0.3	0.2	-	0.8	0.3	0.5
Chemical	1.7	0.2	57.6	-	22.1	19.5	21.1
Internal Combustion	1/	1.7	0.3	0.1	3.5	1.1	1.5
All Other Uses	0.1	1/	1/	-	-	1/	0.1
Butane-Propane Mixture	100.0	100.0	100.0	100.0	100.0	100.0	100.0
Domestic	30.8	56.1	73.1	71.8	64.7	62.9	61.7
Gas-Manufacturing	3.4	9.9	0.8	20.7	8.6	4.4	3.6
Industrial Plants	1.2	4.1	2.3	-	10.8	3.7	3.0
Synthetic Rubber	-	1/	5.6	-	-	2.8	1.0
Chemical	64.6	21.0	14.0	7.5	-	19.8	22.5
Internal Combustion	-	8.8	4.0	-	15.9	6.2	8.2
All Other Uses	-	0.1	0.2	-	-	0.2	1/
Total LP-Gas	100.0	100.0	100.0	100.0	100.0	100.0	100.0
Domestic	54.2	58.2	48.9	88.3	54.8	53.8	52.1
Gas-Manufacturing	15.3	16.2	0.7	8.3	8.9	8.7	7.7
Industrial Plants	12.4	11.7	3.3	2.3	8.4	7.8	7.9
Synthetic Rubber	0.3	2.6	16.6	-	5.2	8.3	9.1
Chemical	17.6	5.8	28.6	-	13.8	17.9	18.7
Internal Combustion	0.1	5.4	1.8	1.1	8.9	3.4	4.5
All Other Uses	0.1	0.1	0.1	-	-	0.1	1/

(Table 4, "Exports"; and Table 6, "Fuel Prices," omitted.)

TABLE 8. PROPORTIONS OF THE SALES OF LP-GASES
IN DISTRICTS FOR PRINCIPAL USES

1/ Less than .05%.

Principal Uses	Districts					Total
	1	2	3	4	5	
Butane	8.9	26.9	54.3	2.0	7.9	100.0
Domestic	15.2	19.8	52.2	6.7	6.1	100.0
Gas-Manufacturing	32.3	57.3	3.5	4.1	2.8	100.0
Industrial Plants	10.6	65.3	20.1	-	4.0	100.0
Synthetic Rubber	0.3	9.9	81.7	-	8.1	100.0
Chemical	0.3	-	80.9	-	18.8	100.0
Internal Combustion	1.9	82.4	0.2	1/	15.5	100.0
All Other Uses	0.3	14.4	35.3	-	-	100.0
Propane	22.9	34.1	28.4	2.3	12.3	100.0
Domestic	25.3	41.4	18.1	3.7	11.5	100.0
Gas-Manufacturing	33.9	52.5	1.4	-	12.2	100.0
Industrial Plants	42.9	35.7	10.9	0.9	9.6	100.0
Synthetic Rubber	21.1	30.7	19.0	-	29.2	100.0
Chemical	2.0	0.3	83.8	-	13.9	100.0
Internal Combustion	0.3	53.2	7.1	0.3	39.1	100.0
All Other Uses	54.8	45.0	0.2	-	-	100.0
Butane-Propane Mixture	12.2	22.6	51.0	0.6	13.6	100.0
Domestic	6.0	20.1	59.2	0.7	14.0	100.0
Gas-Manufacturing	9.6	51.2	9.2	3.0	27.0	100.0
Industrial Plants	3.8	25.0	31.8	-	39.4	100.0
Synthetic Rubber	-	1/	100.0	-	-	100.0
Chemical	40.1	23.9	36.0	-	-	100.0
Internal Combustion	-	31.9	32.7	0.8	34.6	100.0
All Other Uses	-	16.5	83.5	-	-	100.0
Total LP-Gas	16.6	28.8	41.0	1.7	11.9	100.0
Domestic	16.7	31.2	37.3	2.7	12.1	100.0
Gas-Manufacturing	29.3	53.6	3.3	1.6	12.2	100.0
Industrial Plants	26.4	43.1	17.2	0.5	12.8	100.0
Synthetic Rubber	0.6	9.1	82.8	-	7.5	100.0
Chemical	16.3	9.3	65.3	-	9.1	100.0
Internal Combustion	0.5	46.0	21.8	0.5	31.2	100.0
All Other Uses	11.7	22.2	66.1	-	-	100.0

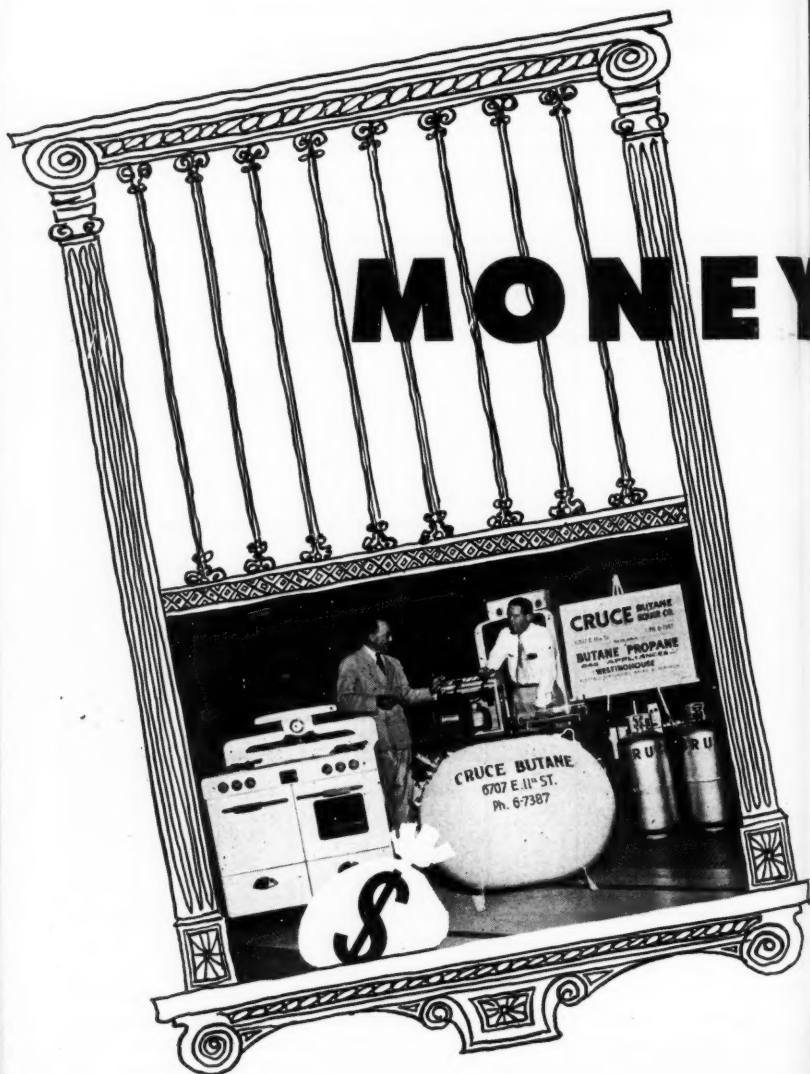
ties in Arizona, California, Iowa, Nevada, New Mexico, and North Carolina.

Undiluted propane gas with a heating value from 2515 to 2550 Btu per cubic foot was supplied to 59 communities in Connecticut,

Maryland, Massachusetts, Michigan, Minnesota, Missouri, Nebraska, New Jersey, New Mexico, South Carolina, Virginia, and Wisconsin.

Exports declined 14% in 1948 compared with 1947 foreign demand.

MONEY



IN THE BANK

By CRAIG ESPY

BECAUSE some banks, stores and other business houses sometimes permit local companies to make displays on their premises, Paul Cruce, Cruce Butane Equipment Co., Tulsa, asked National Bank of Tulsa for permission to install the exhibit shown in the accompanying picture.

As a result of a recent six-day stand on the main floor of this popular bank Mr. Cruce is on the road to being \$4000 better off. That's the tangible results he got from the exhibit.

He sold three Anco, Pacific "Pigs," shown in the photograph

—one to a farmer and two to owners of cabins on Grand Lake. He also sold the two Weatherhead 40-lb. cylinders, with manual throw-over switches, shown in the photo, to a man just moving to South America, who said he could get LP-Gas in that country, but might have trouble getting his cylinders. Two Magic Chef ranges, also shown, were sold, and a third man said he would buy after vacation. He also got a "solid" inquiry from a gas company doing business in Oklahoma, who may install LP-Gas for standby. Refrigerators and washing machines were added to the total sales.

Mr. Cruce made numbers of new friends through the exhibit. Executive Vice President W. A. Brownlee of National Bank of Tulsa (left) is shown with Paul Cruce in the photograph.

Left: Banker Brownlee and Dealer Cruce cooperate to gain attention for LP-Gas equipment. Exhibit is on bank's main floor. Result: \$4000 profit to dealer.

ONCE A SIDELINE NOW BIG BUSINESS



THIS knoll-top appliance store shows what happened when a furniture store's sideline (LP-Gas) became the dominant end of a modern business.

Yes, it is a success story. But it took hard work, fair policies and dealer cooperation by the Garner Gas & Appliance Co., Inc., Farmville, N. C., to make it so. The outside and inside views of this 25 ft. by 40 ft. showroom indicate that the value of good appearance wasn't overlooked.

Immediately following the war, LP-Gas dealers in North Carolina besieged the company for cylinders, ranges and regulating equip-



ment. These were hard to get. So this new wholesale corporation was formed to devote its entire attention to this field. Once established, dealers were needed. Advertising and field salesmen brought these in until now there are 200 of them.

The retail operation of the company consists of gas sales only and is limited to customers within a 35-mile radius of the home office. Beyond, it all goes to dealers, and the appliance end, as well. Even Farmville appliance sales are made only by franchise dealers.

Five competitive gas companies operate in the same territory but the Garner company gives and receives clean competition.



Heading the organization as president is Bill Garner (on left in picture), but much responsibility falls upon his three associates, George, Lewis and Alek Allen. These men and the 20 others devoting their full time to this business, often worked from 7 a.m. until midnight to reach the goal that has been attained.

Mr. Garner's organization is a member of the North Carolina LP-Gas Assn., urges all of his dealers to become members, and sees in such an association a direct means of obtaining useful knowledge and better understanding of the industry.



The principal operations revolve about the pictured cylinder charging plant. Facilities and equipment consist of 1 30,000-gal. propane storage tank, 5 cylinder delivery trucks, an Ingersoll-Rand compressor for unloading, and a Dean pump for cylinder filling. An acre and a half of ground is required for the plant. It is situated between two railroads which furnish ample unloading facilities.

The old American tradition that a man in this country can start little and grow big if he uses his full ability and energy is exemplified in the success made by the Garner Gas & Appliance Co., from a sideline business that has become greater in size than the founders ever dreamed.

Are You Missing an Industrial Bet?

Seven Applications by S. S. White Dental Manufacturing Co. Show Wide Range of Uses

Are you looking for new sources of load?

They exist all around the average dealer's headquarters—sometimes so close to home and so familiar to view, they are ignored.

There are industrial and commercial potentials in nearly every community and no dealer has really canvassed his territory until he has tried to sell gas to these fields. They offer large, steady loads and demand a minimum of service.

Here is a case history of seven applications of LP-Gas under one industrial roof. Very likely one or more of them could be duplicated in small communities throughout the country.

New profits lie in developing such prospects.

THE S. S. White Dental Manufacturing Co. factory at Prince Bay, Staten Island, N. Y., rated the largest producer of dental supplies in the world, provides an important example of how one company can use propane for a great many industrial purposes.

The story of its growing use of propane as an ideal precision fuel for a wide variety of operations is a selling challenge to butane-propane operators everywhere.

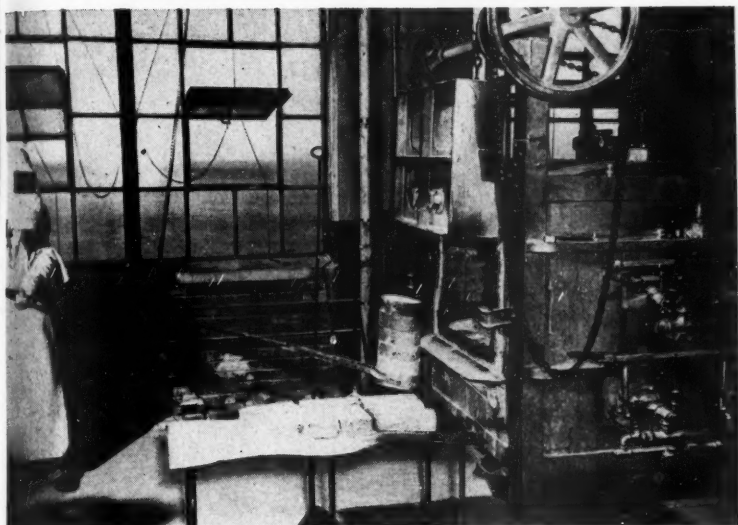
There must be many factories which could make similar varied use of this fuel but are not now doing so, or not using LP-Gas at all.

By ED TITUS

The company first put in propane 10 years ago, starting with a 7230-gallon water capacity tank. Business grew. Meanwhile propane made good in a big way. So last year they installed an 18,000-gallon water capacity tank, which they found necessary to give them adequate fuel, and provide enough in reserve.

Until 10 years ago, the S. S. White Co. was using water gas which it generated. The factory is three miles from the point to which the franchise of the gas utility on Staten Island extends.

Industrial Applications



FURNACE USED IN FABRICATING DENTAL FUSING PORCELAIN—
2300° — 8 HOURS

BRASS FURNACE IN FOUNDRY.

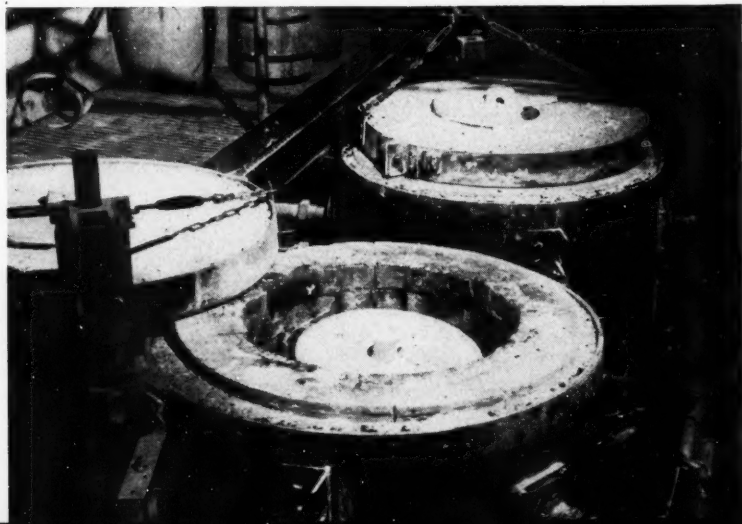


Industrial Applications

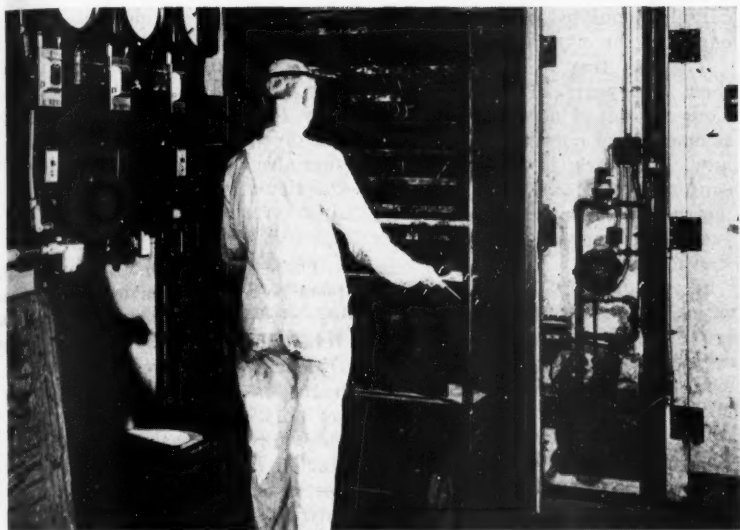


BENCH SOLDERING SMALL HAND PIECE AND DENTAL PARTS.

**FURNACE USED IN BURNING DENTAL CEMENT — 2400° —
8 OR 9 HOURS.**

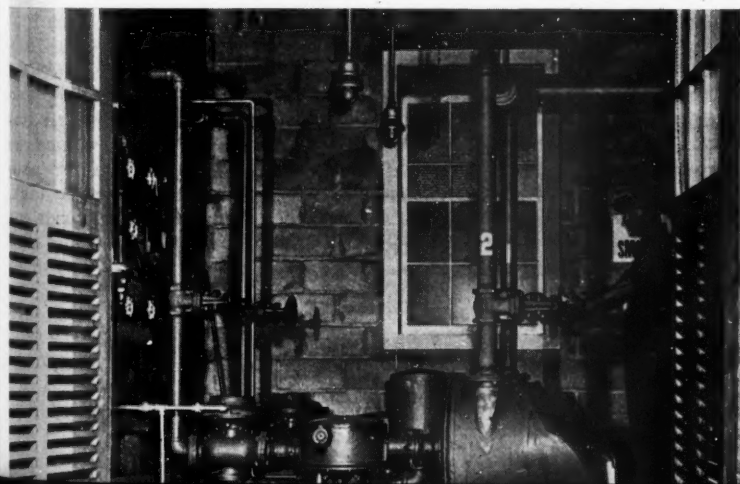


Industrial Applications



OVEN IN PAINT SHOP BAKING SYNTHETIC ENAMELS, ETC. —
300° — 8 HOURS

CARBURETOR HOUSE



Staten Island, comprising the Borough of Richmond, is the least densely populated of the five boroughs of the city of New York.

The gas they made had served them for years. They could get along with it if necessary. But the company was not in the gas business. Its work is making dental equipment and other fine precision instruments. If it could get out of gas manufacturing, it would be a step ahead.

It is significant that an organization which maintains the standards for which S. S. White is noted decided on propane and today is using it so extensively.

"No standard can be too high where health is at stake," the company points out.

The decision to go over to propane was reached partly as a result of attendance by W. P. Uhler, chief engineer of the company, at meetings of the Compressed Gas Assn., where he is on the board of directors. The company is active in this association, being manufacturers of nitrous oxide for dental and industrial use, and also distributing oxygen and carbon dioxide.

Mr. Uhler was at a meeting at which specifications for tank trucks to deliver propane were under discussion. There he met H. Emerson Thomas, who at that time was with Phillips Petroleum Co.

Mr. Thomas and Mr. Uhler had an oyster stew together after the meeting, and the plan for changing over to propane was hatched.

At the time the S. S. White plant was using about 7,000,000

cubic feet of water gas a month. A 7230-gallon water capacity propane tank was decided on.

Since this was going to be the first installation of the sort in the city of New York, it was necessary to get a permit for it from the fire department, and permission also to transport propane over the city streets.

Authorities Grant Permits

The city authorities asked that tests be made. So a demonstration was arranged on the side of a New Jersey hill with 30 or 40 people from various interested regulatory bodies in attendance. A tank was set up with pressure recording devices. Propane was released, a fire started, and burned itself out harmlessly. The authorities were satisfied and the necessary permits granted.

The 7230-gallon tank proved adequate until the company's use of propane kept increasing, due to its satisfactory performance, and due also to the company's increased business in the war and postwar period.

A permit had specified a 1000-gallon tank truck, and since the plant was using up to 12,000 gallons a month during the war, this made necessary rather frequent deliveries, to keep an adequate standby supply in the 7230-gallon tank. Several times they almost ran out of gas. (At present writing they are using 10,000 to 12,000 gallons a month.)

It was decided greater storage capacity should be installed. This necessitated going to the city au-

thorities again, including the fire department, and the Department of Marine and Aviation, which has some jurisdiction over waterfront properties like that of S. S. White, which is on lower New York Bay.

Storage Installed in 1948

Through the cooperation of the engineers of these departments, the deputy chief of the fire department as well as the New York City Board of Standards and Appeals and its engineers, satisfactory specifications were developed, and approval was secured for an 18,000-gallon water capacity tank. It was bought from Downingtown Iron Works and put in during the summer of 1948. The tank was surrounded with a dry dyke and completely fenced in, with a lock on the door of the fence.

From the start the supply of gas has been obtained from Phillips Petroleum Co., which also has aided extensively in engineering and planning in connection with the use of propane.

From the tank the gas is brought to a carburetor house, also known as the proportioning room, where there are two carburetors. It leaves the tank at 25 pounds pressure. At the carburetor house, the pressure is dropped to 4 to 6 inches of water, and then to atmospheric for mixing with air. After the gas and air are mixed, the pressure is raised to 2 pounds, at which it is distributed through the mains of the plant. Sufficient air is introduced to drop the heat content to 550 Btu per cubic foot.

Among the many uses of propane in the plant are the melting of brass and bronze in the foundry; melting precious metal alloys; melting of porcelain base compounds for porcelain material for filling teeth; a great variety of heat treating and annealing furnaces for steel and other products; heating the generators for manufacturing nitrous oxide; soldering; and annealing precious metals.

Plant Has Own Foundry

The plant includes one of the most completely mechanized small foundries in the country. In it there are various kinds of furnaces fired with propane for making castings. There is a Surface Combustion crucible type furnace; also a Young Brothers core baking oven for baking sand cores for both brass and iron.

A great variety of operations is seen in the hand-piece hardening room. The "hand-piece" is the highly polished metal piece which the dentist holds onto when he drills into your teeth. S. S. White manufactures many thousands of them, and they all go through this hand-piece hardening room which serves also for hardening metals for other purposes.

Among the propane-fired equipment in this room are the following:

A little pot where steel for small parts is tempered in hot oil.

A gas furnace for high speed heat treating of stainless steel. A range of temperatures from 1825° to 2400° F is used in this furnace,

and the man in charge is pleased with the fact that with propane as a fuel it can be regulated to a variation of only five degrees.

A Holden furnace where all the nitriding is done. With certain types of stainless steel, this is the only method of hardening. The steel is put through a cyanide bath, the temperature running at 1100°F.

A smaller furnace for carbonizing steel at 1600°.

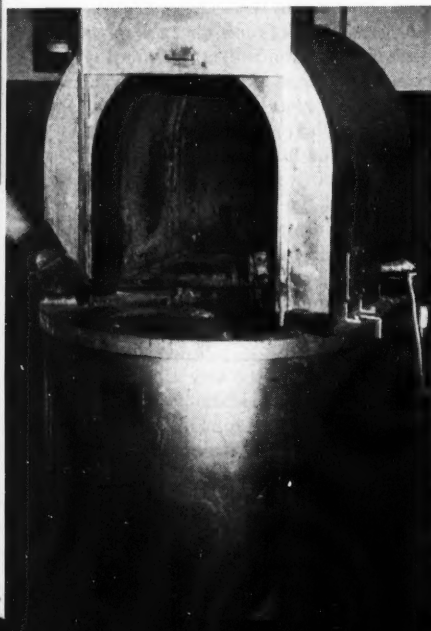
A tempering bath.

A barium chloride neutral bath.

A revolving furnace for carbonizing, annealing and hardening.

A hand torch.

NITRIDING FURNACE IN HAND PIECE DEPARTMENT



And other propane-fired equipment all in this one room.

In some instances the company also uses electric furnaces, for example, for heat-treating the "burs." These are on the end of the dentist's drill, and go into your teeth. Propane equipment that can do the same heat-treating job is there as a standby, in the event of electric failure.

Another room where propane figures prominently is the one where precious metals are processed in various ways. Equipment includes an American Gas melting furnace for alloys.

An example of electricity and propane teaming up is an electrically operated annealing furnace, with a gas generator producing reducing gas for it.

Elsewhere there is a propane-fired Hoke Phoenix blow torch for annealing heavy solder bars.

There are three propane-fired furnaces where precious metal scrap sent in by dealers is melted to be made into bars—also burners to heat acids for pickling purposes.

In two other locations, six big ovens serve for Japan baking. Into these ovens are pushed enamel equipment after it has been sprayed.

Company Does Own Research

In line with its progressive policy, the company has its own modern research and control laboratories. They are staffed by experts in chemistry, dentistry, engineering and metallurgy. In the labs propane has a variety of uses, in-

cluding Bunsen burners and small ovens.

Other equipment includes Surface Combustion furnaces for fusing porcelain; and for dental cement used to fill teeth.

So much for a tour of the S. S. White plant, under expert guidance of Edward Johnson, plant engineer who has had a lot to do with working out the details.

The company has kept the detailed record of how they made the changeover from water gas to propane 10 years ago. It happened they were shutting down for a vacation the first week of July, 1939.

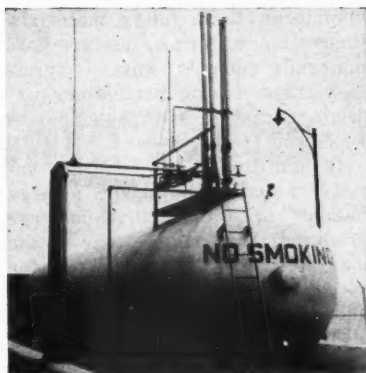
The whole conversion job was done in six vacation days, and tried out. Every burner in the place that needed changing was changed.

Conversion Planned in Advance

Of course, the only reason the job could be done right in the six days was that the engineering angles had been planned in advance. Every burner had been listed, and this took 10 typewritten pages.

In connection with the sound engineering judgment used by S. S. White in choosing propane as a fuel, it is of interest to note that this company celebrated its 100th anniversary five years ago. The business was established by Dr. Samuel Stockton White who, six years earlier, in 1838, had commenced indentureship to learn the art of making teeth and dentistry.

The company is now headed by Fred E. Steen, president, treasurer, and chairman of the board, who joined the company in 1899.



PROPANE TANK

Many employees among the total force of about 1000 at the Staten Island plant have served 25, 40, 45, 50, or more years. The company's activities cover the entire world, with offices in principal cities of this country and in foreign countries. Head office is in Philadelphia, and principal factory at Prince Bay, Staten Island, covered in this article. There are few plants of any sort that could match it for variety of raw materials that are used, for variety of items manufactured or for number of operations performed.

Just a few of the items produced, most of them with the aid of propane, are:

Dental chairs, engines, engine arms, brackets, tables, cuspidors, stools, compressors, lathes, syringes, lamps, burs, belts, cables, nitrous oxide, nitrous oxide-carbon dioxide mixture for cream whipping, saws, mallets, precious metal products for dentistry, orthodontic

appliances, tooth filling materials, impression materials, denture base materials, cements, waxes, impression trays, fusing porcelains, porcelain furnaces, toothpaste, mouth wash and tooth powder.

In addition to the immense variety of dental equipment, a large number of industrial items are produced. For instance, one of the many is the flexible shaft for speedometers, aircraft instruments and numerous other precision uses. Millions of feet of flexible shafting are produced and tons of molded plastics.

It's really no use trying to tell everything S. S. White does with propane. But we won't omit the excellent restaurant, where on the day we visited it, deliciously cooked sea food was a feature.

There's a Garland range, a Savory toaster, and coffee urns and steam table, all fueled with propane.

Great Britain May Produce Enough LP-Gas for Own Use

A very considerable expansion in the production of "liquid gas" is anticipated in Great Britain over the next five to 10 years as a result of the tremendous expansion in refinery capacity now projected. Plans working or proposed involve an expansion of British refinery output from the prewar level of 4½ million tons to approximately 20 million tons.

A further 8 million tons per annum remains to be approved by the Government, but a conservative estimate is an output of 22 million tons by 1953. This program will make Britain largely self-supporting while

the units will be tremendously flexible and capable of very wide variations.

Among the major subsidiary products is a large potential of refinery gas. Butane and propane will also be available for sale as liquid gas while it is considered likely that methane may be profitably piped for admixture with town gas.

Production of carbon black is also visualized.

The liquid gas industry in Britain has made tremendous strides in recent years, it is stated, and this refinery expansion program will add immensely to the supply of basic raw material.

Good Appliance Market Exists In Barranquilla, Colombia

A potential market in Colombia for gas stoves, gas refrigerators, and gas water heaters is enhanced by the opening of a plant for distributing propane gas in Barranquilla, according to a recent report.

The city has at present approximately 300 gas installations, about 63% of which are stoves, 36% refrigerators, and 1% water heaters. Of these, an estimated 95% are domestic installations and 5% are industrial.

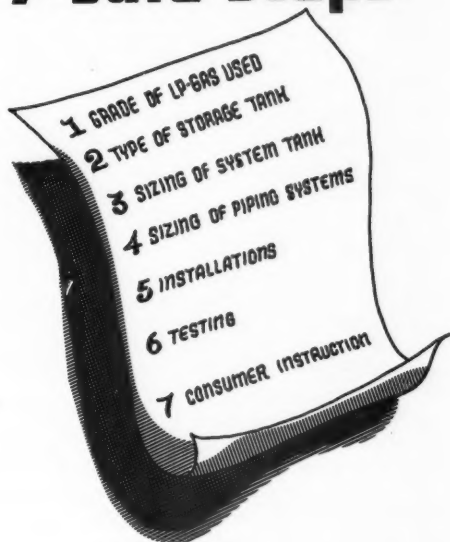
The new plant owned by the Tropical Oil Co. is primarily interested in the sale of its fuel. Although the company also markets stoves, refrigerators, and heaters, this activity is designed to stimulate consumption of its major product, and it is believed that were competing lines to enter the market, it would supply those installations as well as its own.

In its present condition, the new plant is designed to accommodate 2000 installations with relative ease, which contemplates nearly a sevenfold expansion in the present market.

DOMESTIC INSTALLATIONS—

7-Safe Steps

In Two Parts PART 1



By JOHN SZITAR
The Weatherhead Co.,
Cleveland, Ohio

A BUTANE-PROPANE DEALER'S PRINCIPAL job is to make correct installations at customers' premises. If fuel tank, yard line and house piping are installed according to accepted good practices, they will be safe and they will give long service.

Dealers are naturally interested in hearing what industry authorities have to say about correct installations so they can apply that information to their own problems. Not long ago (at an LPGA service school in Colorado), John E. Szitar, Weatherhead Co., Cleveland,

presented a paper upon this subject. It is a text that can well be kept close at hand for ready reference and made available to all members of service and installation departments of distributors.

In order to determine the proper requirements for an LP-Gas installation of service tanks, yard line and house piping, we must determine various factors which con-

tribute to the final result—a complete LP-Gas system.

Of the various factors involved, there are some important ones which determine the real value and service performance of the system. Briefly, these are the controlling factors.

1. Grade of LP-Gas used.
2. Type of storage tank.
3. Sizing of the system tank.
4. Proper sizing of pipe systems.
5. Installations.
6. Testing.
7. Instruction of the consumer.

1. Grade of LP-Gas Used

One of the first things to be determined is the particular grade of LP-Gas that is to be furnished and used in the storage tank and carried through the piping system for the many years that the consumer is equipping himself to use the service. The particular grade of LP-Gas that is to be used in the tank is of particular interest. Whether propane, butane or various mixtures are used will determine the type of equipment and system to contain it. Availability of the various grades should be considered, so that if a lower grade has to be used, the equipment installed should be such as to store and carry this grade satisfactorily.

Because butane is more likely to be produced more economically and is generally available in sufficient quantities, the general trend may be to greater use of this type or grade. However, because of climate conditions, use of butane or certain mixtures may not be satisfactory for a system in certain localities.

This factor is pretty generally accepted, yet under extreme temperature changes, some trouble has been experienced due to insufficient pressure available to the appliances. Particularly has it been true where mixtures of butane and propane have been used, that under temporary low temperature conditions, the propane has vaporized off, while the butane has remained in the tank, with resulting lower inlet pressures being available. Thus, we must know the various characteristics of the grade of gas we are using and what can be expected from it.

The use of various grades of LP-Gas impose various problems in the system selection as to pressures, type of equipment, etc. Once we are determined in our operations to use some particular grade or all grades, then the next decision is with respect to the type of tank that will store and handle our particular grade of gas.

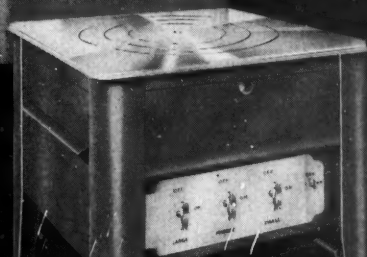
2. Type of Storage Tank or Container

Knowing the particular type of gas we will use and its properties, we now select a storage tank that will handle our fuel. If a tank is required to hold all grades from normal butane to propane and all mixtures in between, then a tank of not less than 200 lbs. psi working pressure will be selected. It may be an aboveground or an underground type. It may or may not be equipped with a vaporizer, depending on particular conditions of location or desire.

There are certain advantages to either type, factors which the supplier must determine for his own

The **BLODGETT** **PYRASTOVE**

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NEW
IN
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FOR EVERY HEATING PURPOSE

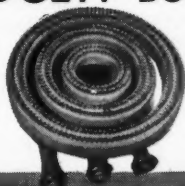
SUPREME TEMPERATURE CONTROL

THEY NEEDED IT . . . THEY WANTED IT . . . that's the dealer and user response to Blodgett's announcement of this brand new and sensationally different all-purpose stove!

We think this unusual interest is due: first, to the fact that "Pyrastove" brings the so-called "utility stove" up-to-date, as of 1949—with a heating range from rocket speed to a whisper of warmth; second, to Blodgett's 100-year leadership in commercial oven manufacture.

The REVOLUTIONARY **BLODGETT BURNER**

Here's a 3-ring, 3-control burner that gives you the heat you want for the job at hand. Three continuously welded steel rings, 466 stainless steel ports, with separate "rocket-to-whisper" valves.



Normal input is 100,000 B.t.u. Here's the burner that makers of industrial and domestic equipment have dreamed of. It's at their disposal—today—thanks to Blodgett's century of "know-how"!

The G. S. BLODGETT CO., Inc.
50 LAKESIDE AVENUE BURLINGTON, VERMONT

satisfaction. Generally, we find that the aboveground type is preferred and in some few states is mandatory, with underground installations not permitted, such as in Michigan.

On the aboveground tank, there are these factors:

1. It can be easily inspected and maintained.
2. It is not subject to soil corrosion and will last for a longer time.
3. It can be installed on customer's premises cheaply with less disturbance to property. Can be installed even when ground is frozen.
4. It cannot be easily covered by a building extension.
5. It can be moved easily and cheaply.
6. In cold climates, the air currents and wind will reach it and induce vaporizing of the liquid within.

On underground tanks, there are these factors:

1. Inspection and maintenance is difficult.
2. They are subject to soil corrosion and consequently leakage.
3. It may be more expensive to install, although it is claimed that its bulk is practically out of sight.
4. Underground temperatures remain more uniform so that vaporization rate is fairly constant.
5. However, due to vaporization rate, very low temperatures may exist in the liquid fuel, and the moist earth will freeze and form a good insulation around the tank, keeping the surrounding heat of the earth from reaching the tank.

We are not trying to favor either type of installation, but are merely trying to get certain thoughts across, which may effect the ultimate service of the system to the consumer and to the owner of the equipment.

Since dependability of service is paramount with low maintenance costs always desired, the advantages of each type must be thoroughly considered.

From this, we select a container of the proper working pressure and classification to do the job we want. In the case of cylinder or bottle systems, of course, we are limited to containers constructed in accordance with ICC specifications. In systems utilizing containers other than ICC, the ASME or API-ASME type are required.

3. Sizing of the System's Tank

Having decided on the grade of fuel and type of container to use, it becomes necessary to determine what size of tank will render the most dependable service at a reasonable cost to the customer. It has been found that many installations made in the past and now in service are too small to provide year-round, dependable service.

There are many factors to be considered in selecting the size of tank, such as economy factors, cost, interval time between fillings, but we are not going to discuss these factors. We are interested in the required gas consumption or load demand which applies, and the generating capacity of the tank required. We feel that the container that will do the best job should be the prime consideration.

Therefore, in sizing the system tank, our main object is to select an adequate tank size for a given installation. It has been stated that the regulator can deliver sufficient Btu's per hour for any system under ordinary conditions. We wish to point out, that if the regulator is supplied with sufficient gas at a high enough inlet pressure, it will deliver the requirements for most installations. Often, however, trouble encountered is not due to the regulator failing to pass the gas, but rather the tank size is so small as to be unable to produce sufficient gas at high enough pressures.

Vaporization Is the Objective

The transfer of heat from the atmosphere or surrounding ground surface outside of the tank, through the tank wall is a most important function in the LP-Gas system. In fact, the temperature is the real means which allows the system to function. Therefore, the gas generating capacity of the tank depends upon the amount of tank surface in contact with the liquid during the heat transfer. So a tank must be selected which will produce sufficient vaporization of gas during low temperatures to provide sufficient gas at a high enough pressure to enable our regulator and system to function properly.

Use of some type of vaporizer unit attached to the system in many cases may be required to provide satisfactory operation of a system. But where we depend on the temperature alone to provide

the pressure, we must select our tank on its capacity to generate gas.

Therefore, a tank of large size will offer greater surface area to the atmosphere for the heat transfer necessary for vaporization. During the cold weather, the tank should be kept at least one-half full for this reason.

The other consideration must be the load demand at various requirements which the tank must supply. This load in Btu's determines the gallon capacity of the tank so that a sufficient supply of liquid must be stored to furnish this load. Filling interval time must be considered, so that if consumption is rapid, the customer must be supplied more often or sufficient storage capacity provided for a longer period of time.

4. Proper Sizing of Pipe Systems

The subject of house piping seems to us a very important one. We believe that one of our real needs today is correct house line sizing. Adequate size or capacity of a system to carry the full gas load demand in any installation offers a real trouble-free service to which the customer is entitled. In many cases, little effort has been spent to make line sizes adequate to suit the required load conditions.

Undersize house lines have been found to be the cause of low or fluctuating line pressures, causing pilot and flame outages, resulting in minor accidents. As an illustration, installations have been found with a range and water heater installed on a long length of $\frac{3}{8}$ " OD

tubing and the customer continually complaining of high gas cost and pilot outages and, of course, not the piping, but the regulator was blamed as being at fault.

In most cases too, considerable effort is expended in determining proper size and capacity of tank storage, size of heat units, stove, etc., and then the piping sizes are overlooked and the whole system installed on $\frac{3}{8}$ " copper tubing because it looks to be large enough and is available. This type of installation will only result in poor performance due to undersize piping, and eventually to a dissatisfied customer.

If the piping is undersized, we can expect considerable pressure drop and with the fluctuating loads will result in pressure variations despite the use of regulators, and will make it difficult to adjust the appliances for the most efficient and satisfactory operation. Thus, adequate size of piping is an important factor in good service.

When to Adjust Regulators

Some have the impression that all regulators are adjusted for line pressure at the factory and, therefore, need no further adjustment regardless of the length and size of house line or size of the load. We wish to point out here that most regulating equipment must be adjusted for line pressure at the time of installation because of slight variations of line loss which cannot be completely eliminated.

Any regulator would be capable of delivering gas to the burner at

the same pressure and volume at which it leaves the regulator outlet fitting but for the pressure drop or line loss which is the result of the friction of the gas passing through long lines, undersize lines, fittings, valves, and other items that are restrictions to its normal free flow.

Avoid Sharp Tubing Bends

As the pressure drop cannot be eliminated, we must attempt to reduce it to the lowest possible degree, partially through adjustment of the regulator to a higher delivery pressure, but mostly through use of larger tubing, preventing sharp bends and kinks, and keeping to a minimum the number of fittings and valves that tend to restrict the flow. Theoretically, the loss of pressure caused by a series of restrictions can be so great that no pressure is actually recorded at the burner outlet. Of course, all the gas that enters the pipe from the regulator actually comes out at the burner, but it may have been so restricted that practically no pressure is left. At least it cannot be measured practically.

Pressure drop in a smooth straight tube is proportional to the length, but as all installations must necessarily have elbows, tees, reducers, etc., it is necessary to add up the total of all of these points of restriction and from that point, determine how much outlet pressure must be provided to drive the correct fuel volume at the proper burner pressure.

This can be determined by adding up the various line losses in the proposed system, but when



JOB-PAK

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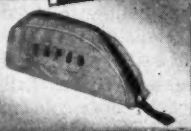
'Superior' PACKAGE for 'SUPERIOR' TUBING

WHAT JOB-PAK DOES FOR YOU—Job-Pak is Penn's new personalized tubing package that means more sales, more profit for you. Penn packages are fast selling, easy to stock, readily identified, and ready for re-shipping. One side of the box carries the Penn trademark; the opposite side is designed for your imprint or label, making each box *exclusively your own*. Your company name on each package keeps your name before your customers and serves as a constant reminder for repeat orders. Different color box for each type of tubing identifies all packages quickly and easily. Large, bold face type states contents of each box—length, wall dimensions, type and size of tubing—for easy inventory. Sturdy corrugated carton, ready for re-shipping, allows space for fittings and other small parts.

Get 'Superior' tube in the better package, "Job-Pak."



New Paper Tube Tools.
Send for Tube folder.



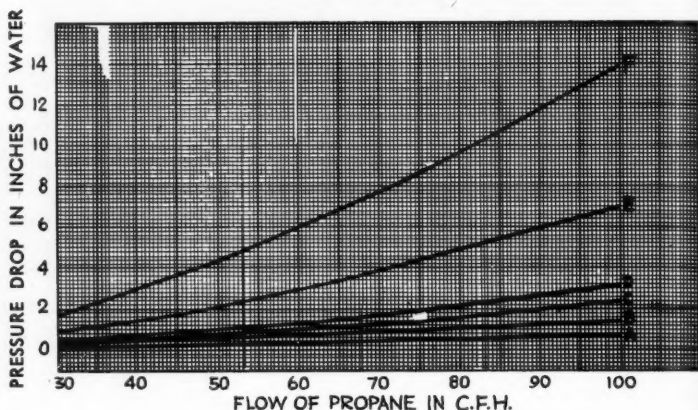
Send for test tube literature and pressure chart.



Penn **BRASS & COPPER COMPANY**

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Chart 1.



Pressure drop through .035 wall x 3.4 in. tubing and .035 wall x 1/2 in. tubing in lengths as noted.

A—25 ft. of 3/4 in. OD x .035 wall tubing
B—50 ft. of 3/4 in. OD x .035 wall tubing
C—75 ft. of 3/4 in. OD x .035 wall tubing

D—100 ft. of 3/4 in. OD x .035 wall tubing
E—25 ft. of 1/2 in. OD x .035 wall tubing
F—50 ft. of 1/2 in. OD x .035 wall tubing

more than one appliance or unit is called for by branching off the line, it is necessary that the line size and the pressure ahead of the first branch, or take-off, be of sufficient value to feed or supply all subsequent lines at the same time and still keep the flow and burner pressure up to full value, with 9 inches water column being the safe minimum.

Chart 1 shows what pressure drops are to be expected from certain lengths of certain size tubing at a few specified volume flows. As

no chart can be made to cover all possible installations, the attached chart has been prepared to show how great the loss can be in a piece of straight tubing of a given length.

Referring again to Chart I all these values start at 0 flow and 0 pressure but as little or no value is presented below a flow of 30 CFH, all graph lines start at that value.

(To Be Continued)

**OPERATING COSTS
ARE LIGHTER WITH**

**UPG FEATHERWEIGHT
CYLINDERS...**

**CUT OPERATING COSTS
ALL ALONG THE LINE**

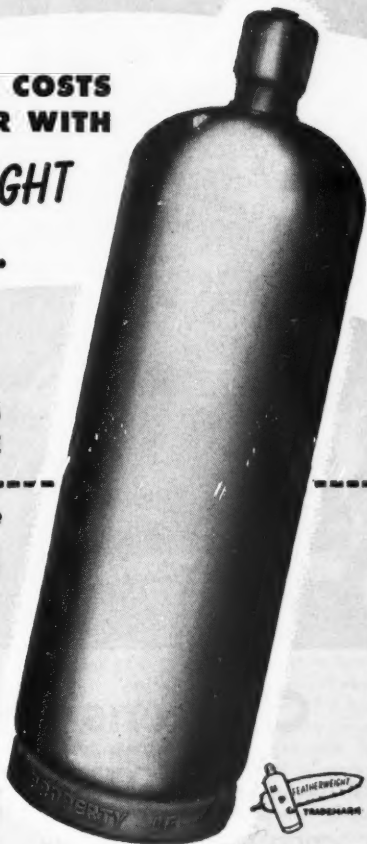
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Your firm name embossed on the Featherweight foot ring guards your property against theft and misdirection...identifies your cylinders anywhere.

YOUR NAME



United's Featherweight cylinders are built of lightweight high tensile strength alloy steel. Order the UPG Featherweight now ... for longer service ... for better service.

UNITED PETROLEUM GAS COMPANY

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Chickens and Turkeys= Arkansas Profits

A GOOD slice of the Cy Carney Appliance business in northwest Arkansas comes from chicken and turkey brooding. Five counties in this area produce 800,000 broilers a week. During one week in July these counties ranked fourth in the nation's production of broilers. Dressing plants in the area have a capacity

By CRAIG ESPY

for processing 50,000 broilers a day.

Around 75% to 80% of fowl brooding is accomplished with LP-Gas. A. A. Welborn, manager, points out that LP-Gas brooders operate more economically than

NORTHWEST ARKAN-
SAS is a great poultry-raising district. And LP-Gas helped make it so.

It was here that some of the first experiments were made in "cold room brooding" that popularized the modern brooder.

Cy Carney, of Fayetteville and Rogers, Ark., has sold LP-Gas to chicken raisers for many years and sees a great future in this field.

That gleam in the eye of John Sanders (opposite page), manager of Rockwood Farms near Rogers, means that some customer wants to dine on his best turkey.

brooders utilizing other fuels. Kerosene costs one-third more, he says. Also, LP-Gas provides even temperature heat at all times. Other fuels produce too much or too little heat and when turned low, the flame goes out. But this is not true of LP-Gas.

A minimum of labor is required when LP-Gas is used. Also, birds feather out more quickly when exposed to the more natural heat provided by LP-Gas brooders.

Lee Harris is a fairly typical customer. Mr. Harris operates a farm west of Rogers, Ark. He started in the chicken business six years ago. Now he has four brooder houses on one place in which he

It's Good Business!

Cy Carney Appliance, Rogers, Ark., has had a 15% gain in business in the year ending in July over the previous year. When you ask A. A. Welborn, manager, "why?", he'll lay down some rules that are good to observe in running any LP-Gas business.

For one thing, he believes in making personal contacts. Translated into today's needs, this means getting out and making sales calls. He has been known to drive as high as 320 miles in his territory in a single day, in making calls.

When he makes a sale, he maintains close relations with the customer. Frequently several sales spring from one.

He doesn't believe in taking the other fellow's business. He also makes his prices stick. He says 95% of the people respect a man if he makes a profit. He also carries a full line of advertised appliances.

He believes in the personal advancement of his employees. Every little while his company holds a sales and service school. Frequently outside speakers are brought in to instruct the employees in better service methods.

"Goodwill is very vital to his business," he says, and cites the time that he hastily drove through a flock of chickens when he was rushing an injured lad to a hospital. Later he returned to the farmhouse, explained his rush and paid for several chickens he had killed or injured.

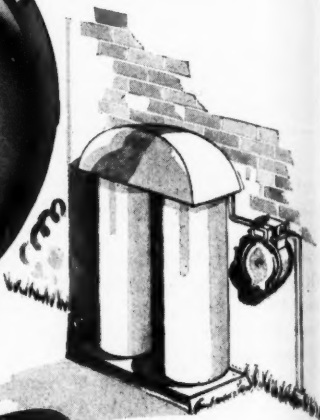
He also is strong for customer fair-play, usually thought of as the "golden rule" policy, and frequently passes some advantage on to a customer. Customer protection is also practiced. This involves seeing that the customer gets sufficient LP-Gas at all times. He also sells the customer adequate tank facilities and keeps alert to the normal growth in customers' activities. This frequently leads to the installation of a second and larger system that is tied into the first system sold.

The Meter with a Future



THE SPRAGUE ZEPHYR HAS THE CAPACITY

Capacity for increasing consumption of LP-Gas coupled with its modern design of modern metals — It's made for outdoor installations for modern metered service. The future can be yours — If you prepare for it with SPRAGUE ZEPHYRS — the meters with a future.



NOW AVAILABLE

New instruction film for service personnel "MAINTENANCE PROCEDURE FOR SPRAGUE GAS METERS."

Send for reservation.

SPRAGUE

LP-GAS
Zephyr

METERS

THE SPRAGUE METER COMPANY
BRIDGEPORT 4, CONNECTICUT

At right: Mrs. Lee Harris turns chicks out of brooder house to get some sunshine. One of the brooder houses located on the Lee Harris farm.

produces from 25,000 to 35,000 broilers per year. On an adjoining place he produces 30,000 broilers per year. Mrs. Harris uses LP-Gas in the home for all services—cooking, heating, water heating and refrigeration. Starting with a 1000-gallon tank, the Harris family two years ago installed a second system of 1114 gallons. The



nearby Huggens family started with a 470-gallon system three years ago. Six months ago they added a 1114-gallon system.

Cy Carney Appliance at Rogers employs four outside salesmen. A similar number of salesmen are employed at Fayetteville. The company also has a branch operation at Springdale.

At left: A. A. Welborn, manager, Cy Carney Appliance, Rogers. Mr. Welborn has been in the business 15 years. He is standing in front of Cy Carney bulk plant located at Rogers.



TROUBLES OF A

Trouble Shooter

DEALING with the public always develops touches of humor and brings many complications, as well. Much of the service costs that LP - Gas dealers undergo are due to demands of customers, who fail to use judgment or consideration in making complaints.



GEO. B. SHEPPARD

G. B. Sheppard, manager of the Carolina Suburban Gas Co., Laurens, S. C., seems to have had more than his share of quaint and interesting experiences with customers. At the early summer meeting of the South Carolina LP-Gas Assn. he recounted some of these. Other dealers will be able to see some of their own ex-

periences in Mr. Sheppard's references.

One particularly hectic day will stand out in my memory as long as memory lasts. It was Christmas Eve, 1947, a cold, rainy, windy day with the temperature just above freezing. All of the trucks had a busy schedule that day, for we were checking on all customers who were likely to be low on gas. The telephone rang incessantly. Among the calls were four long distance emergency orders for gas from four widely separated points, all about 30 miles from home.

Just as the last truck had departed, in came a call from a lady eight miles away. She was cooking a turkey when the oven began to smoke. As the smoke got thicker, she had to open doors and windows and then retreat to the telephone. She said something was wrong with the gas. Come at once.

When I arrived, I found the grease from the turkey was leaking through a hole in the roaster onto the oven bottom. The oven bottom was filled with rock wool and the rock wool was saturated with turkey grease.

It took an hour to evaporate and burn off all the grease, but this was finally done and the turkey was returned to the oven in a leak proof container.

She said nothing like that ever happened when she had a good old oil stove.

A lady called from a cafe 18 miles away.

An explosion in a gas oven had just occurred, she said. The lid on the gas cylinder at the back of the cafe had been blown off by the explosion. There was great danger. The area at the back had been roped off. The police were standing guard to keep all persons away from the gas tank.

I set out immediately and broke speed laws to reach the place. I went out back, but could find no policeman and no crowd. The lady who had phoned had gone home.

Her son said that there had been a little trouble when his mother lit the oven. Going out back, she had noticed the lid was off the tank, had assumed that an explosion had blown it off and had called the police. He said he was sorry. His mother did not know how to light a gas oven.

The day was over by the time I



reached him, but it did not officially end until 15 minutes before midnight. At that hour another lady phoned to say that her gas tank was empty and she wanted it filled up right away.

I told her we could not run the tank truck at that time of night. She said she was cold and I suggested that she go to bed and get warm.

The phone at the house is practically always ringing during the evening meal.

One cold night in February, while we were at supper, the sheriff's office called. A deputy said there was a lady there, about half crazy with excitement, saying that her gas tank in the back yard was spewing gas all over the neighborhood and something ought to be done immediately. I told him to get her name and address, which he did.

I reached the tank two miles away in three minutes and could discover no gas escaping anywhere. A boy came out of the house and said he could see and hear it and I must be deaf and blind if I could not.

There was a slight noise of gas passing through the regulator and there was some tar under the regulator on the aluminum paint covering



the tank. He pointed to the tar and said that was the gas.

His mother then came out in a bathrobe and I asked her why she had gone to the sheriff. Her answer was that she did not know it was the sheriff. She thought it was a policeman.

"Why go to the police?" I queried.

"They have charge of all civil disturbances," she said, retreating gracefully to the house, "and I am going to bed to recover from the nervous shock of this one."

A certain county agent with a beligerent disposition had an old, worn out gas range that had a tendency to leak. He got tired of it one day and traded it for an electric range. After the electric range had been installed he called us to remove the gas equipment. A truck was sent promptly to do this.

Presently the county agent wished to speak to me on the telephone.

"Listen," said he. "I do not appreciate at all what your men have been saying about my cabbage plants."

Likes Wormy Cabbages

Having no idea what he was talking about, I asked him to repeat the complaint slowly. He said he would not tolerate gas men criticizing his cabbage plants. His cabbage plants were his own business and were no concern of the gas men. He wanted to see them at once and he wanted an apology from the gas company. Bewildered, I told him I would attend to it.

When the truck driver returned, I learned that he and his helper had noticed that the back yard of the county agent had been planted with cabbages and that worms had eaten all the leaves, making a deplorable looking cabbage patch. The driver had remarked about this condition to his helper and the colored cook had reported this to her employer.

Our men went back to the house and told the county agent they were sorry about his cabbages and he told them to attend to their own business in the future, that he wanted the worms to eat his cabbage and he did not want to hear any remarks from ignorant gas men.

Everybody in a Fog

Once when I arrived at the office, I found that a message had come in from a farm 15 miles away. I was to go there at once, as gas was escaping in the house in a fog that was choking the people and they had had to move outdoors. Since I could not figure out how our gas could be creating a fog that choked people, I ignored the message. But the woman called again in a few minutes and told me the same story. I told her that it could not be our gas.

"Listen," she replied, "I am holding you responsible if anything happens. It's your gas and you are supposed to come at once."

When I arrived, her husband met me and said it was all a big mistake. He had come home and found that the electric refrigerator had sprung a leak and the sulphur dioxide was choking them, but it wasn't any of our business. I went in the kitchen and the lady said, "Oh, I'm so ashamed."

Thanks? No thanks. Apology? No apology.



Back to Cooking School

Students Flock to Demonstrations
As Gas Proves Superior Over Electricity

By JOSEPH LAWREN

COOKING schools are flourishing again! They disappeared with the war and did not return with peace because of the shortage of appliances for several years.

Now it is time to sell again, and the St. Petersburg (Fla.) Gas Appliance Co. is finding cooking demonstrations a sure road to sales. Last spring it opened the first of a series at its display rooms at 770 Second Ave. South and called it the "Cooking School for Brides."

But the opening session disclosed

that the name, "School for Brides" was a misnomer. For so insistent was the demand of women who became brides many years ago to attend the school, bars had to be let down and all feminine applicants (no males applied) interested in cooking with gas, were admitted to the school.

Each Wednesday evening for six



School attendants listen with rapt attention while Mrs. Mary Dorn prepares a meal on a Magic Chef.



Mrs. Mary Dorn points out advantages of cooking with gas at the cooking school of St. Petersburg (Fla.) Gas Appliance Co.

weeks, the school met in the large display room of the St. Petersburg Gas Appliance Co., there to be intrigued by Mrs. Mary Dorn, home service director for the Tampa Gas Co. in nearby Tampa. Mrs. Dorn graduated from the Tennessee State Teachers' College, and was home service director with the St. Petersburg gas department for several years.

The war, with its emphasis on all phases of nutrition, found her conducting numerous canteen classes and serving as volunteer supervisor of Red Cross canteen work. Though in civilian status she trained the first class of WAC bakers and cooks at Ft. Oglethorpe, Ga.

Lately, Mrs. Dorn trained a class of 20 men home economics students at the University of Tampa and, to

her surprise, found that her students showed far more interest in cookery than many similar classes of girls.

The course she conducted at the St. Petersburg Gas Appliance Co. featured requests and demonstrations by the class members, which averaged about 150 in each class. Lessons in meat and vegetable cooking by gas were stressed, but salads, marketing and storing were included in the course.

Especially interesting to the students was her demonstration of a broiler meal, prepared and ready for the table in 40 minutes. All cooking and baking during class hours were sampled and consumed by class members.

During the class lectures and demonstrations, Mrs. Dorn stressed the flexibility of gas-prepared meals--

how the desired heat is obtained at the desired time, and how low, sustained heat is instantly at hand with a modern gas range.

A number of the students having all-electric kitchens, expressed their intentions of changing over to all-gas kitchens. Mrs. Dorn does not stress the advisability, or the superiority of gas cooking over cooking by electricity. But she allows her demonstrations to speak for themselves so that those of her class who cook by electricity soon come to the realization of the advisability of all-gas cooking. The art of cooking with gas finds in Mrs. Dorn its finest example.

The cooking school at St. Petersburg Gas Appliance Co. has successfully demonstrated its full value as a builder of good will for gas, and gas appliances, and as a sure way of increasing the sale of gas appliances.

Technical Training in LP-Gas Opens in Georgia Sept. 26

Enrollment is now underway for the 18-month, technological LP-Gas course to begin Sept. 26 at Southern Technical Institute, Chamblee, Ga. (BUTANE - PROPANE News, August 1949, P. 109).

The period of study, developed with the support of the national Liquefied Petroleum Gas Assn., offers for the first time complete training in the technological phases of the LP-Gas industry without necessitating an expensive, four-year education leading to a professional engineering degree. Southern Tech, a unit of the engineering extension division of Georgia Institute of Technology, will offer courses prescribed by the parent institution and approved by the board of regents of the state university system. Law-

rence V. Johnson is director of the school; John D. Sewell is assistant director.

Young men who have desired to enter the liquefied petroleum gas industry in technical capacities, but who heretofore have been unwilling to spend the time and money required for a full university engineering course, will be principal beneficiaries of the new course of study.

The study will differ from the full engineering training in that individual courses will be more fully concentrated on the technical—rational processes are to be stressed more than rules of procedure. The overall effect of the study will be to enable graduates to enter immediately into technical positions within the industry without more formal training.

Florida's Suburban Gas Takes Six Newspaper Pages for Story

Six full pages, comprising the entire second section of the "St. Augustine Record," were devoted late in June to stories and advertisements announcing the grand opening in St. Augustine (Fla.) of the modern new building of the Suburban Gas Co., Inc. It was also the occasion of the twelfth anniversary celebration of the company's organization.

The opening, which occurred June 29, offered the public myriad prizes, including a Youngstown Kitchenaid sink and a complete fuel installation. The company, an oldtimer in St. Augustine, lost no chance to tell customers and prospects of the complete line of appliances and services made available for the first time with the new facilities.

Suburban Gas sells gas under the trade name "Green's Fuel," and serves the communities of Palatka, Green

Cove Springs, Hastings, Bunnell, Flagler Beach, Bayard and St. Augustine. Officers of the company are A. W. Spiller, president; A. W. Spiller, Jr., vice president, and Frank D. Upchurch, secretary.

South Carolina Firm Building Three-Story Office Plant

A \$125,000 expansion program is underway at the Rulane Gas Co., Charlotte, N. C., with construction already begun on a three-story building at the home office of the company, according to W. S. Lander, president of the firm.

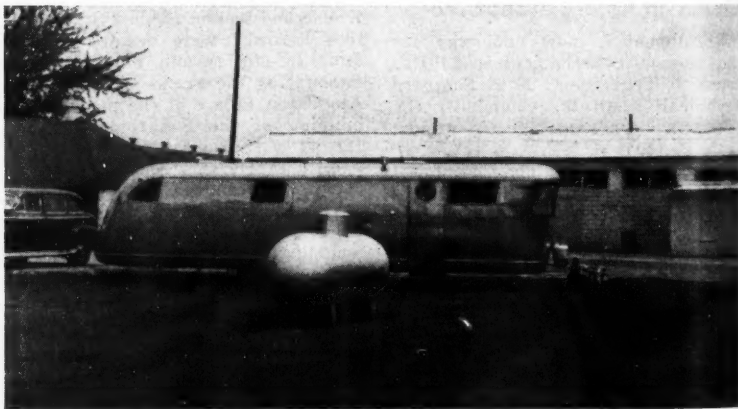
The fire-proof building will be built of face brick on the outside to match the company's present building. In the basement will be a room for holding service meetings, a cafeteria, and a large, modern kitchen containing

commercial ranges, steam tables, and other commercial cooking equipment.

The street floor will contain the accounting offices and several executive offices. Other executive offices will be on the top floor, together with the engineering, purchasing and wholesale appliance departments. Additional land will be used for a service garage and warehouse.

The expansion program is in line with the volume of business done in 1948 by Rulane. According to the company, more than 11,000 new Rulane systems were installed last year.

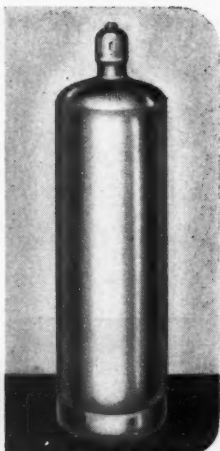
The growth is not limited to the company's home office, however. An office and display room were recently added to the Portsmouth, Va., plant. In March the company moved into a new plant at Winston-Salem, N. C. This plant consists of a display room, accounting and service department offices, and a warehouse.



John Zink Co., Tulsa, manufacturer of gas heat makers and burners, has located this trailer on company premises for experimental purposes in connection with the design of an LP-Gas circulating type of heater for trailers which the company hopes to perfect for the next heating season.

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in Lightweight Propane
Cylinders . . . your wise choice
is the **HARRISBURG**
LITE-WEIGHT

Minimum PRACTICAL Tare Weight
. . . Greater Safety, Longer Life



MANUFACTURED TO I.C.C.
SPECIFICATION 48A-240

8 good reasons why:

• **MINIMUM PRACTICAL TARE WEIGHT**
—Tare weight of 72 lbs., 25%-30% saving in weight over conventional standard cylinders—strong enough to withstand internal pressure and rough handling. Capacity 100 lbs.

• **TOP-QUALITY CONSTRUCTION**—Fabricated from special high tensile strength alloy steel. Greater safety with longer life in service.

• **HYDROSTATIC TESTING**—Every Harrisburg Lite-Weight Cylinder is rigidly inspected and hydrostatically tested to 480 p.s.i.

• **SMOOTH-SIDED**—No ridges or bulges. Sides are smooth for easy sliding on and off delivery trucks and platforms.

• **EASILY STORED**—Can be moved in, out, and around warehouses and filling plants with less effort than standard weight cylinders.

• **EASILY HANDLED**—Less weight on trucks. Your truckmen can pick 'em up and put 'em down in greater numbers per working day.

• **FLEXIBLE**—Supplied with caps, without caps, with valves inserted, without valves inserted—in any quantity—for Domestic or Export use. Supplied with customer's registered mark and serial numbers upon request.

• **HOT-DIP GALVANIZED**—Now available! Write for data and prices on hot-dip galvanized Lite-Weight Cylinders.

Today's Prices Are Worth Knowing
MAIL THIS COUPON

Harrisburg Steel Corp., Harrisburg 4, Pa.

We want prices and delivery on your Lite-Weight Propane Cylinders in quantities of: () 25-99, () 100-499, () over 500, () with caps, () without caps, () with valves, inserted.

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STEEL CORPORATION
HARRISBURG 4, PENNSYLVANIA



96 YEARS IN
PENNSYLVANIA'S
CAPITAL

ASSOCIATIONS

NBPA Prepares for Fourth Annual Meet in St. Louis



JOHN LOCKE



CHAS. S. MORGAN

Members of the National Butane-Propane Assn. throughout the nation will convene Sept. 19-20, when the association holds its fourth annual national convention in St. Louis' Jefferson hotel. John Locke, 1948-1949 president will conduct the various sessions.

Association officers have planned a two-day session of business, addresses, and open forums for the convention. This year, for the first time, NBPA will omit from its convention program the trade show that has been customary. In reporting the exclusion of the exhibits from this year's activity, Elwin E. Hadlick, executive vice president, said that the absence of new models and status of the current market would place an unwarranted burden upon manufacturers.

As it stands, the convention will open at 10 a.m. on Sept. 19 with reports of committees, election of officers, and a business session. Later that day, at 1:30 p.m., there will be held a speaking session and a forum for active members, followed by a buffet supper at 6:30. Tuesday, Sept. 20, will be a full day of speaking sessions, including both addresses by LP-Gas experts, and a forum open to the general convention attendance.

The following speakers have been scheduled to speak during the convention:

Charles S. Morgan, National Fire Protection Assn.: "Toward a Better Understanding."

Joseph F. Leopold, Dallas: "Taxation of Cooperatives."

Earle A. Clifford, National L-P Gas Institute: "A Standard Method for Butane-Propane Gas Pipe Sizing."

Percy Bugbee, general manager of National Fire Protection Assn.: "The Work of the National Fire Protection Assn."

Joseph F. Holland, Counsel, Pevely Dairy Co.: Subject to be announced.

Lee A. Brand, Empire Stove Co.: Subject to be announced.

Raymond R. Tucker, Department of Mechanical Engineering, Washington University (St. Louis): "Butane-Propane Gas for Heating."

John V. Grimaldi, director of indus-

trial division, Assn. of Casualty and Surety Companies: Subject to be announced.

Reservations at the Jefferson can be made through Gregory Lucy, Jefferson hotel, St. Louis, Mo.

At the July quarterly meeting of NBPA directors, action was taken after consideration of a variety of proposals. The directors recommended to the regulatory authorities that the following steps be taken:

1. Repeal all provisions of Campbell's Freight Tariff No. 4 requiring retest of liquefied petroleum gas cylinders because of lapse of a certain period of time.
2. Add requirements to the same tariff providing for:
 - a. Use of a safety relief valve on all liquefied petroleum gas cylinders;
 - b. Initial manufacturers' test of safety relief valves; and
 - c. Retest of safety relief valves at specified intervals.

CNGA

At the annual meeting of the board of directors of the California Natural Gasoline Assn. in Los Angeles on July 27, the newly elected president, J. B. Taylor, Signal Oil & Gas Co., officially took office. William A. Kirk, Southern California Oil Co., served as president last year.



J. B. TAYLOR

for the 1949-50 term and E. R. Millett, Jr., has been reelected secretary-treasurer.

Committee chairmen for the ensuing year, as selected by President Taylor are:

R. S. Tulin, Advisory and Gas Report.

L. V. Cassaday, Finance and Budget.

Paul Armstrong, Membership.

A. C. Lyles, Technical.

Fred Hartley, Fall Meeting.

Ernest Chipman, Program.

R. D. Sutherland, Entertainment.

Harold Boredelon, Publicity.

The annual fall meeting of the CNGA will be held at the Ambassador hotel, Los Angeles, on Oct. 7.



WALTER NAUMER



**JOHN
VAN NORDEN**

North East District, LPGA

Sales and marketing techniques in the buyer's market will get full attention this month at the annual North Eastern meeting of the Liquefied Petroleum Gas Assn. in New York, Sept. 15-16. John Van Norden, sales manager of the American Meter Co. and chairman of arrangements for the meeting, has scheduled sessions for the "Penntop" auditorium of the Hotel Statler.

While sales promotion will be stressed, speeches and panels on the program will cover diversified topics. Luncheon speaker for the first day of the meeting will be Arthur H. Motley, president of Parade Publications, Inc., and chairman of the board

of the National Federation of Sales Executives.

On the afternoon of Sept. 15, Howard D. White, LPGA executive vice president, will discuss "The Present Scope and the Potential of Your Association's Service"; Arthur C. Kreutzer will talk on "Legislative Lures and Trends"; Frank Fetherston will review technical progress of the industry; and Col. George Burrell, president of Atlantic States Gas Co., will lead a symposium on safety.

On the morning of Sept. 16, "How to Handle Your No. 1 Competition" will be the subject of a joint presentation by B. Prettyman, sales manager of Fuelane Corp., and Roy R. Johnson, president of Pennsylvania LPGA. At the same time, there will be a symposium on sales and marketing techniques led by William Foster, vice president, George D. Roper Corp. Walter A. Naumer, manager of the Pyrofax Gas Division, Carbide and Carbon Chemicals Corp., is director of LPGA's North Eastern District.

LPGA

Appointment of nine of the 12 LPGA standing committee chairmen and three special committee chairmen for 1949-50 has been announced by President Si Darling. They are as follows:

Standing Committees

Appliance Specifications — C. A. Westbrook, Carbide & Carbon Chemicals Corp., New York, N. Y.

Constitution and By-Laws — H. R. Seacat, Seacat's Gas Service, Inc., Emporia, Kan.

Finance — Norman A. Evans, Pressed Steel Tank Co., Milwaukee, Wisc.

Insurance — W. B. Wight, Consumers Gas Co. of Georgia, Inc., Albany, Ga.



CHAS. RUSSELL



NORMAN EVANS

Legislative — K. W. Rugh, Phillips Petroleum Co., Bartlesville, Okla.

Membership — Charles O. Russell, Rapid Thermogas Co., Des Moines, Ia.

Safety — H. Emerson Thomas, Fuelite Natural Gas Corp, Westfield, N. J.

Technical and Standards — E. O. Mattocks, Phillips Petroleum Co., Bartlesville, Okla.

Transportation — F. T. Carpenter, United Petroleum Gas Co., Minneapolis, Minn.

Special Committees

Gas Fuel Technology Course — Fred A. Rives, Automatic Gas Co. of Columbus, Inc., Columbus, Ga.

Marketing — A. F. Smith, A. O. Smith Corp., Milwaukee, Wisc.

Special Recognition — K. H. Koach, Green's Fuel, Inc., Sarasota, Fla.

Heads of the Educational, LP-Gas Specifications, and Publicity and Advertising Committees will be named by Mr. Darling in the near future.

Wisconsin

The Wisconsin Liquefied Petroleum Gas Assn. will again hold a unique Northwoods state-wide convention Sept. 9, 10, 11 at Ross' Teal Lake Lodge, Hayward, Wis. In 1948 the association first tried this type of in-

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OPEN AND CLOSE
MAIN DISCHARGE VALVE
OF YOUR LP-GAS TRUCKS
AUTOMATICALLY



WECO-TROL Control System opens the main discharge valve simultaneously with engaging the power take-off . . . automatically closes it when the power take-off is disengaged. The same handle on the truck instrument panel which controls the power take-off operates the WECO-TROL Control System.

WECO-TROL Control System has reduced delivery time by as much as 20% for some operators by eliminating manual opening and closing of the discharge valve. It prevents waste and minimizes hazards by eliminating danger of driving with the valve open. WECO-TROL is positive, failure-proof. The valve automatically closes if the truck motor stops while fuel is being pumped.

WECO-TROL is easily, quickly and economically installed. In many instances the only change necessary is the replacement of the diaphragm valve with WECO-TROL valve.

The peak season for LP-Gas deliveries is approaching. Prepare now to service more customers per day by installing WECO-TROL Control System on your trucks.

Saves
Delivery Time.
Easy to Install.



Write for latest
WECO-TROL bulletins.



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of Oilfield, Refining, Marine
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WELL EQUIPMENT MFG. CORP.

Subsidiary of Chiksan Company
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Exclusive Sales Representative Outside Mid-Continent Area
CHIKSAN COMPANY

Brea, Calif.

New York 7

Export Sales: CHIKSAN EXPORT COMPANY, Brea, Calif. New York 7

formal get-together at this famous lodge and the event was so successful the membership requested a repeat visit in 1949.

A full program of events is planned, starting with a welcome party on the afternoon of the arrival day, Sept. 9, and highlighted by the outdoor business on a beautiful island in Teal Lake following a huge shore-dinner cooked by Northwoods guides. This business meeting will be held at mid-day on Sept. 10. Boat trips, fishing for "musky," wall-eye pike, bass or pan-fish, and all the other varieties of outdoor fun featured at northern Wisconsin resorts will be part of the program.

Arrangements are in charge of Harris J. Helmer, Badger Gas Products, Platteville, Wis. Reservations are made with Mr. Helmer. Many members of the association are planning to stay on at the resort for fishing or will come early to get in some vacationing prior to the convention.

Tennessee

Due to increased business at this particular time of year, the meeting and banquet scheduled for August 20, 1949, by the Tennessee LP-Gas Assn. has been postponed until Oct. 17, at which time a one-day business meeting with luncheon will be held at the Andrew Jackson hotel, Nashville for the purpose of electing officers and handling other business matters.

The announcement comes from J. C. McReynolds, Jr., secretary-treasurer of the association.

New Mexico

New Mexico LP-Gas dealers will hold their annual meeting Sept. 14 in Albuquerque, according to an announcement by Richard C. Martin, secretary - treasurer of the state

LP-GA. All dealers will be welcome to attend.

The one-day session will be held in the Hilton hotel. Luncheon, dinner, and a cocktail party are included in the association's program.

The day previous, Sept. 13, the board of directors will meet at the same hotel.

Kentucky



FRANCES
HOLLIDAY

Extensive plans are being made for the second annual convention and trade show of the Kentucky Liquefied Petroleum Gas Assn. The meeting will be at the Seelbach hotel, Louisville, and the dates are Oct. 10-11.

The trade exhibit of this association last year was highly successful and brought dealers not only from Kentucky but from nearby states. Under the direction of Charles E. Nead, convention chairman, it is expected that this year's show will exceed in volume the one held last year.

Officers of the Kentucky association are:

Frances L. Holliday, president.

C. L. Shaffer, vice president.

C. G. Keesy, secretary-treasurer.

Louisiana

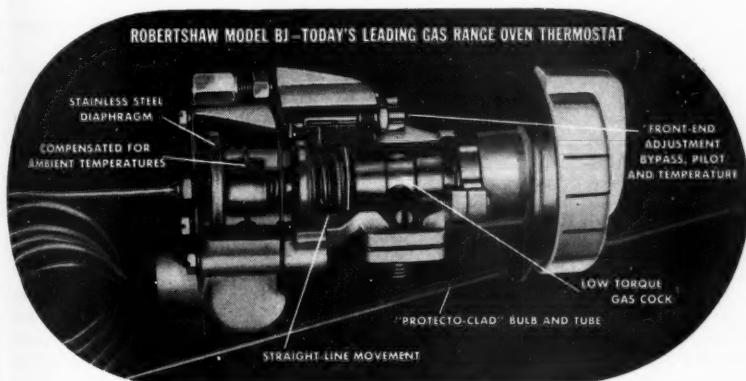
The liquefied petroleum gas industry in Louisiana has made a substantial contribution toward state progress, three state officials told members of the industry in Alexandria, La., July 20.

Addressing the summer member-

10,000,000

IN USE

In addition to these important features Model BJ Thermostats have an important hidden quality that no camera can record. It's the "know-how" accumulated through fifty years of experience producing efficient, dependable controls for a wide variety of uses in home and industry.



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CONTROLS COMPANY

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ROBERTSHAW THERMOSTAT DIVISION, Youngwood, Pennsylvania
FULTON STAPHON DIVISION, Knoxville, Tennessee
BRIDGEPORT THERMOSTAT DIVISION, Bridgeport, Connecticut

GRAYSON CONTROLS DIVISION, Lynwood, California
AMERICAN THERMOMETER DIVISION, St. Louis, Missouri

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ship meeting of the Butane-Propane Institute of Louisiana were Lt. Gov. William J. Dodd, Wade O. Martin, Jr., secretary of state, and a member of the state liquefied petroleum gas commission, and W. J. Fischer of New Orleans, commission chairman.

Mr. Dodd told the dealers and others he believed that they had helped both health and morale of their 90,000 consumers, especially those in rural areas, by bringing them conveniences not otherwise available.

"Governor Long and this administration," he said, "are behind you in anything you can do for the welfare of rural people, and we believe your commission and your institute are doing a fine job."

Institute members adopted and pledged themselves to observe a code of practices for the industry.

In summary form, the code requires "complete service at reasonable rates, safe practices, and adequate supplies."

Dealers also agreed to cooperate with the state commission in tagging each installation with the commission's warning that it is a violation of state law for "any person or persons other than a bonded dealer to install, convert or otherwise alter any butane or liquefied petroleum product installations, appliances or piping."

Presiding at the day-long session was Louis Abramson, Jr., of New Orleans, institute president. Guests included Keith Jones, director of the state commission, Commissioner Lewin Semon of Shreveport, and dealers from neighboring states.

All organizations serving the liquefied petroleum gas industry are invited to send to this department notices of forthcoming meetings and reports upon such meetings after they have occurred.—Editor.

Two LPGA Western Meetings

There will be two meetings in October of the Pacific South West district of the LPGA, one at the Southern California Gas Co. auditorium, 810 S. Flower St., Los Angeles, on Oct. 4, and the other at the St. Francis hotel in San Francisco Oct. 5.

These meetings will be attended by LPGA President Si Darling, Executive Vice President Howard D. White and several LPGA directors. Progress reports upon the formation of a California state association will be made at these meetings.

Make reservations with Don McNary, West Coast secretary, 3743 Alameda Ave., Oakland, Calif., or Harry Horn, LPGA California State LPGA Director, Anaheim, Calif.

Colorado

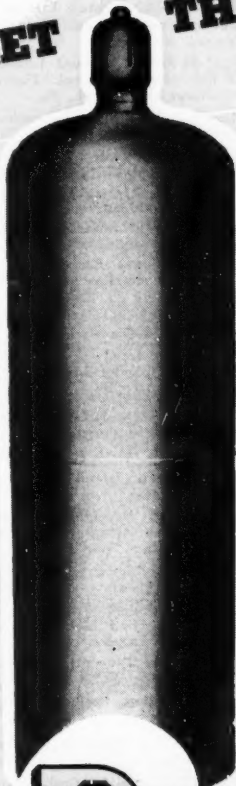
Plans have been completed for the 1949 annual convention and trade show of the Colorado Liquefied Petroleum Gas Assn., to be held in Denver's Shirley-Savoy hotel, Sept. 25-27.



R. Y. MILLS

Major emphasis of the convention will be centered on problems of marketing and sales promotion. The three days of the convention will be divided into morning exhibition sessions and addresses and forums in the afternoons. The meeting will be closed on the last night with a dinner-dance, states R. Y. Mills, president.

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The newest member
of the Delta LPG vessel
product family
is the new **LIGHTWEIGHT**.

High tensile,
low alloy steel gives this
sturdy cylinder strength
where you need it—strength
where it counts.

The **LIGHTWEIGHT** is a money-
maker for you, because
unusual strength with light
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Export Office: Suite 118, International Trade Mart, New Orleans, U. S. A.
MANUFACTURERS OF LPG PRESSURE TANKS AND L.C.G. CYLINDERS

LPGA—West Coast



DON McNARY

Seven meetings were held within the state of California last month, aimed at answering LP-Gasmen's problems as regards licensing, bonding, auditing, accounting, and meter tolerances and regulations. The series was supervised by Don McNary, West Coast secretary of the LPGA.

Speakers for the meetings were Robert Craig, fuel tax administrator for the Board of Equalization, and James Brenton, chief of the Bureau of Weights and Measures. Mr. Pierce explained workings of the new tax program provided in LPGA's state bill AB1071; Mr. Brenton conducted public hearings on a proposed administrative code pertaining to weighing and measurement of LP-Gas.

The meetings were held from Aug. 16 through Aug. 24, in San Diego, Los Angeles, Fresno, Salinas, Santa Rosa, Sacramento, and Redding.

Knowles Co. Becomes Western States Gas

Knowles Butane-Propane Co., of Galva, Kan., went out of business last July. But on the same day, a new company was born—with the same personnel, the same equipment, the same service.

Knowles had long wanted to change its name to Western States Gas; since July 1 was the date the company was due to renew its Kansas state hauling permits, the time seemed ripe. So now Knowles Butane-Propane Co. is dead; Western States Gas has come into existence.

CALENDAR

All associations are invited to send in dates of their special and annual meetings for this calendar.

- Sept. 6-8 — Minnesota LP-Gas Service School. University of Minnesota Farm Campus. St. Paul.
- Sept. 7-9—Second Annual LPGA Eastern LP-Gas Service School. University of Pittsburgh. Pittsburgh, Pa.
- Sept. 7-9—Pacific Coast Gas Assn. Annual Convention. Santa Barbara, Calif.
- Sept. 9-11—Wisconsin LP-Gas Assn. Ross' Teal Lake Lodge. Hayward.
- Sept. 14—New Mexico LP-Gas Assn. Hilton Hotel. Albuquerque, N.M.
- Sept. 14-16 — National Petroleum Assn. Hotel Traymore. Atlantic City, N. J.
- Sept. 15-16—North Eastern District, Liquefied Petroleum Gas Assn. Hotel Statler. New York.
- Sept. 19-20—National Butane-Propane Assn. Convention. Jefferson Hotel. St. Louis.
- Sept. 25-27—Colorado LP-Gas Assn. Fall Convention. Shirley-Savoy Hotel. Denver.
- Sept. 26—Opening of 18-month, LP-Gas Fuel Technology Course at Chamblee, Ga.
- Sept. 28-29—LPGA Board of Directors. Cosmopolitan Hotel, Denver, Colo.
- Sept. 29—Long Island (N. Y.) Liquid Petroleum Assn.
- Oct. 4—LPGA Pacific South West District Meeting. Southern California Gas Co. Auditorium. Los Angeles.
- Oct. 5—LPGA Pacific South West District Meeting. St. Francis Hotel. San Francisco.
- Oct. 7—CNGA Fall Meeting. Ambassador Hotel. Los Angeles.
- Oct. 9-15—Fire Prevention Week.
- Oct. 10-11—Kentucky LP-Gas Assn. Annual convention. Seelbach Hotel, Louisville.
- Oct. 14—NGAA Southern Regional Meeting. Blackstone Hotel. Tyler, Texas.
- Oct. 17—Tennessee LP-Gas Assn. Andrew Jackson Hotel. Nashville.
- Oct. 17-20—American Gas Assn. Annual Convention. Chicago.
- Oct. 24-28 — National Safety Congress. Morrison Hotel. Chicago.
- Nov. 21-22—Assn. of Nebraska LP-Gas Dealers. Hotel Paxton, Omaha.
- Nov. 27-Dec. 2 — American Society of Mechanical Engineers. Annual Meeting. New York.

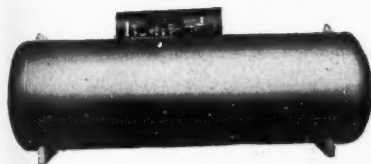
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(Left) Above-ground and Under-ground storage tanks that are quality built for long years of efficient operation — available in all sizes — all A.S.M.E. tanks.

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(Right) Full-Skirted Standard Tanks with special cylinder brackets for bottled gas. Pump mounted with direct driven power take-off. All control valves and print-o-meter in rear can box.



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Portable Tar Pots Utilize Propane

By JAMES JOSEPH

WHEN Pacific Gas & Electric Co., a northern California utility company, asked Ransome Co., Emeryville, Calif., to design a portable tar pot, the company came up with a lightweight, propane-fueled outfit which has seen extensive use.

It's the "Flotine" pot, in three capacity sizes: 2, 5, and 7-gallon. The 2-gallon size carries a type LOC4, 2½ gallon ICC propane cylinder. Cylinder, regulator, burner, and pot are mounted on a 32x14-inch steel base and can be carried by one man. The 5-gallon capacity—like the 7-gallon—uses a 20C4, propane tank, though not mounted on the same base. It, too, is portable, with two fuel tanks as part of the unit in the larger sizes.

Main use for Flotine pots—at least

along P. G. & E. lines—is in the application of protective wrappings to gas pipe joints and fittings.

The tar-applying job calls for a limited amount of wrapping material (here it is "Pabco") put on in two layers around all joints—with liberal use of tar. The pot has a special spigot for pouring.

The 2-gallon size tar pot works best for pipes under 4 inches. For up to 6-inch diameter pipe, the larger units are best. Tar is poured directly from the pot using the 2-gallon size, while for the larger, tar is transferred to a smaller container before pouring.

It takes but 30 minutes, using



This combination of tar pot and LP-Gas cylinder is used in applying protective wrappings for buried pipelines.

propane, to heat tar in the 2-gallon pot to working consistency. This outfit holds enough tar to cover a 6-foot, 4-inch diameter pipe.

Field conditions have seen the original 2-gallon outfit modified with a 5-gallon propane cylinder when workmen found the 2½-gallon propane holder too small. The 5-gallon containers hold enough fuel for about five working days.

Typical of how field conditions alter a unit, is a change made by crews who found that three set screws securing a 1-inch high circular base ring (which holds the cylinder), difficult to grasp by wrench, especially when tar coated.

Another change, geared to practical field conditions, is a suggested safety pin-type lock for the cylinder valve hand-wheel so children can't tamper with the LP-Gas holder when pots are left out overnight.

In some instances the 5-gallon cylinder has been replaced with 100 lb. "Flamo" or "Shellane" bottles to avoid such frequent refilling.

"Pyrofax" Establishes Bulk Plant in Massachusetts

Construction has just been started on a new "Pyrofax" gas cylinder filling station at North Dartmouth, Mass. The new plant is expected to be ready for operation sometime in August, and will make possible improved and expanded service to "Pyrofax" gas users in southeastern Massachusetts and Rhode Island.

A one-story concrete building, approximately 50 by 60 feet, will house the cylinder filling operations and a storage tank of 30,000 gallon capacity is being erected on the property.

The liquefied petroleum gas will be brought to the plant in tank cars via the New York, New Haven, and Hart-

ford railroad. It will be transferred directly to the storage tank. From there it will be bottled for distribution to homes, farms, and factories beyond the city gas mains.

"Pyrofax" gas, a product of Carbide and Carbon Chemicals Corp., New York City, is sold through a widespread chain of local distributors.

Kentucky Dealer Group Awards Diplomas to 30 Servicemen

The Local Bottled Gas Dealers, Inc., composed of dealers and distributors of bottled gases, completed in August a 14-week comprehensive training course for their servicemen. At the close of the school, the graduates were awarded diplomas and given identification cards by Thomas B. Crutcher, Jr., president of the Dealers. These 30 servicemen were guests of the Dealers at a banquet at the Kentucky hotel, Louisville, Ky.

The school was in session for two hours each Monday evening and was conducted along forum lines. Outstanding speakers presided at each class and among the subjects were, "Gas Ranges," "Water Heaters," "Do's and Don'ts," "Servel Refrigerators," "LP-Gases," "LPG Equipment," "House Piping," "Space Heaters," "Venting Appliances" and other related subjects.

It was not only the first LP-Gas servicemen's school in this area, but it was unique that nearly all local Dealers cooperated in sponsoring the school and underwriting the expense.

New officers elected by the Dealers were: Raymond Rains, Dri-Gas, president; Lou Stauble, Ky-Gas, president, and Paul Thompson, Skelgas, Secretary-treasurer.

Directors elected were: Raymond Rains, Thomas B. Crutcher, Jr., Pyrofax, and Wm. Stockhoff, Colman.

"Mission to Berlin"

By VIRGIL STARK

President, North American Utility & Construction Corp. and North American Petroleum Gas Corp.

AS the Berlin Airlift is now over, we can disclose an interesting project which would have allowed increase of the airlift efficiency.

The North American Petroleum Gas Corp. has submitted through Virgil Stark, president of the company, a project to the Army department for saving coal shipped by air to Berlin.

The manufacturing of gas in the 4 Berlin gas plants of the Western Zone used approximately 1000 tons of coal per day shipped by air. The project provided the utilization of propane which is shipped in tanks as a liquid under pressure. The propane could be mixed with the manufactured gas in certain proportions without any change at the existing plants, distribution system or appliances. Each ton of propane used would have saved approximately 4 tons of coal. Considering the weight of the tanks necessary to ship the propane, the saving would have been net approximately 3 tons for each ton of propane. For instance, if 50 tons of propane would have been used, the net saving for the airlift would have been 150 tons per day.

As a plane carried 10 tons this would represent a saving of 15 flights each day, or 85,000 ton miles per day. The Secretary of Defense in his annual report indicated a cost of approximately \$160 per ton shipped by airlift. The saving would have been for above quantity, approximately

\$700,000 a month. The cost of the necessary equipment would have been amortised in approximately two weeks or the airlift would have carried more weight with the same fleet.

The project submitted by Mr. Stark was discussed in a meeting in Washington where 15 high officers and engineers of different Army departments were present. The Army inquired about the possibility of the realization of such project from American Gas Assn. and other competent authorities. Mr. Segeler, AGA, stated that the project is feasible. The Army decided that the project seemed of interest. After cabling to OMGUS in Berlin, the Army Department requested V. Stark and K. Weil, of the North American Petroleum Gas Corp. to join a special mission to Berlin to study the local conditions for the realization of this project.

The study made in Berlin showed conclusively by comparing with the operational local statistics that the saving in weight indicated by the project was correct and that technically the project was possible to realize.

Choice of Two Ways

Propane could be used either to enrich the low heat value gas distributed in Berlin or as propane-air mixed with the manufactured gas. Special automatic equipment was devised by T. Gilbert, of Cutler Hammer, Inc., manufacturers of such equipment and represented by the North American Petroleum Gas Corp. Arrangements were made to have all equipment ready in a short time. Such project would have allowed to increase if desired the gas distributed in Berlin by approximately 50% without increasing the weight of the fuel shipped by air. As gas was

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strictly rationed in Berlin this project would have eased the situation.

Such project would have given the opportunity to ship for the first time liquid gas under pressure by air and realize important savings. It remains on the record as a future possibility of increasing efficiency in similar cases.

Lone Star Covers Butane Tanks With Rot-Proof Glass Fabric

High resistance to weathering, including mildew and rot, has led Lone Star Gas Co., Dallas, to employ an aluminum-pigmented, vinyl-coated cloth woven of Fiberglas yarns for the covers of the insulated steel tanks in which butane is stored for domestic gas uses, outside homes and other buildings beyond reach of city gas mains.

Because the customer storage tanks are exposed to all the extremes of summer and winter temperatures, they are wrapped with a one-inch-thick Fiberglas insulation blanket, both to protect the contents from be-

low freezing temperatures and to reduce heat loss by radiation from the outside surface of the tank. The vinyl resin and Fiberglas fabric cover is placed over the insulation blanket to hold it in place and to keep it from becoming wet from rain or snow.

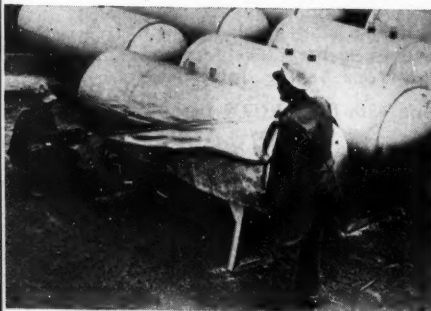
The Fiberglas yarns of which the cover is woven cannot rot and are not affected by mildew. They provide a tighter fitting cover than is possible with a cover woven of organic yarns, since the glass yarns will not shrink or stretch. The covers woven of the glass yarns are more pliable than covers woven of organic yarns and weigh only one-third as much as the coated organic yarn covers formerly used. Greater pliability and lighter weight, in combination with the better fit, make them easier to install.

Scottish Suppliers Insist Upon Specially Designed Appliances

A recent report from Glasgow states that the butane gas industry is still sitting with piles of orders for service despite the fact that over the past year some very definite progress has been made in developing this industry. Originally regarded as an unlikely source of revenue to the refineries, butane has proved a best seller and evidence of this is seen in the fact that the large oil companies now maintain laboratories for the testing of butane equipment.

The Scottish industry is now drawing supplies from the very efficient filling station created at Grangemouth some months ago by Scottish Oils, Ltd., and has thus a nearer and adequate source of supplies. Attention is meantime being devoted rather to the long-term development of the industry than to immediate advantages. Thus, the supplying companies are insisting that butane and

Fitting the vinyl resin and Fiberglas fabric cover over the insulated tank.



propane must be used only for equipment specially designed to use these gases.

Ignorance on the part of local suppliers, and some firms who cashed in on the shortage of equipment, caused misuse, against the advice of the mobile gas experts. Attention is therefore being devoted to insisting that only equipment specifically designed for the gas is used with it—and where a breach is discovered supplies of gas can readily be controlled.

Appliances Scarce in Scotland

Improved deliveries of many items of equipment have helped this policy, although at the present moment stoves are scarce. There is some possibility that cuts in the supplies of steel to the cylinder manufacturers may limit the supply of these essentials to the mobile gas distributors and this would limit expansion again. Current position is largely that as one problem is adjusted another develops to worry the distributor.

In addition to the shortages already mentioned, a current problem is the rising cost of all equipment. New items coming on the market are attractive from the consumers' viewpoints and might well be incorporated as standard equipment. To do so would be to add to the cost of supply and this, with money now tighter, is undesirable.

Liquid gas supply areas are fortunate, however, in that earning power in the agricultural areas has been proportionately less affected than in the cities and this will undoubtedly mean a strong trade for years ahead. Current orders will ensure work for perhaps two to three years ahead at present rates of delivery.

Among current usages are the adoption of butane for fish and chip

mobile vans. This has always been regarded as an expensive use but recent advances in the price of coal have brought butane to a competitive level. Even so, this use remains doubtful. Another recent mobile use has been the adoption of cylinder gas for sterilization purposes on food vehicles. Ice cream men have been prominent, using a gas cylinder in combination with a sterilizing cabinet, a wash hand basin and a gravity water tank.

Rural schools are being fitted with standard equipment and some industrial uses are being demonstrated, pending the piping of city gas. Major market is still the rural domestic market and it is here, supplying farms and country towns, that the fullest scope for mobile gas is visualized.

Last Chance for Safety Issues

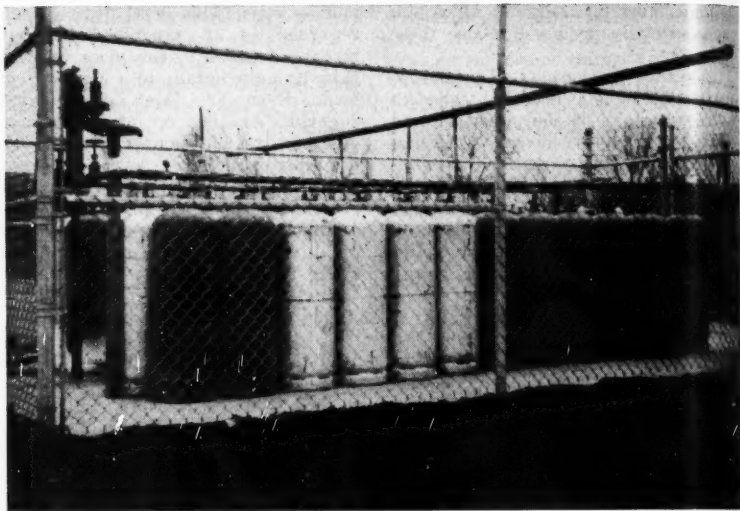
Those desiring extra copies of the June, 1949, Safety Issue of Butane-Propane News should place their orders within the next 30 days as we do not intend to reprint that issue.

The price is \$2 per copy. Dealers should send orders for themselves and their employees to 198 S. Alvarado St., Los Angeles, Calif.

Propane Serves Store Group In Buffalo Shopping Center

One of the largest bottled gas installations in New York state has been established at the new Delaware Park shopping center on Delaware Ave., Buffalo, to provide heat for 21 stores.

Officials of the shopping center reported that the installation was a



Multiple cylinder installation in Buffalo, N. Y., that serves a group of stores in community market center.

temporary measure taken because of current gas shortage in Buffalo. However, a check of store managers indicated they are very well satisfied with results of the heating system and there may be some sentiment in favor of keeping it as a permanent heating plant.

Made Safe Installation

The installation has been erected about 100 feet back of the long row of store buildings which make up the shopping center. Tanks are placed on a concrete base which is protected with a high wire fence to keep away prowlers.

There are about 50 tanks in the enclosure and these are replenished as demand requires. They are operated by a master control. Pipes lead

from the installation underground to the various stores.

The shopping center is one of the largest of its type in Upper New York.

Key West Boasts New LP-Gas Firm

Key West, Fla., has a new LP-Gas company. The Island City Bottled Gas Co., Inc., under the management of Ernest Perez and his son, Jack Perez, is open and ready for business.

The firm had its official opening Aug. 2, and it brings to Key West and Monroe county a total of 46 years of experience in the gas business between the two Messrs. Perez.

In addition to the sale of gas, the company will carry a complete line of ranges, water heaters, and refrigerators.

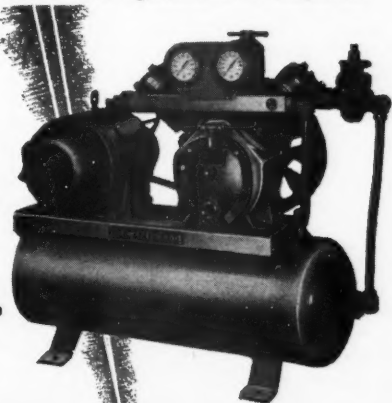
UNLOAD BUTANE and PROPANE with Model LPG COMPRESSOR

The Ingersoll-Rand LPG Compressor is the ultimate for tank car unloading. Engineered, designed and built by Ingersoll-Rand, the world's largest compressor manufacturer, the LPG Compressor unloads the liquefied petroleum gas quickly and more efficiently. This results from the ability of the 5 hp. LPG to handle 250 psi intake pressure, thus eliminating intake throttling and giving greater "free gas" capacity.

After removal of the liquid, the Ingersoll-Rand LPG also permits almost complete recovery of the gas remaining in the tank car by the simple turn of a valve at the compressor. Compare this with your present means of handling liquefied petroleum.

Check into the many outstanding features of the Ingersoll-Rand LPG Compressor.

- Simplified oil filler system
- Four piston-ring construction
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- Totally enclosed centrifugal unloader
- Inlet and discharge valves in single assembly
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220-3

Beet Loading Machine Uses Two Types of Carburetion

By PAUL LADY

THE use of LP-Gas as a source of power for agricultural machinery is common throughout the country; however, the use of this fuel for the operation of a beet loading machine is rather unique. The machine, which is self-propelled, operates in the farm region which surrounds the little town of Hemet, Calif.

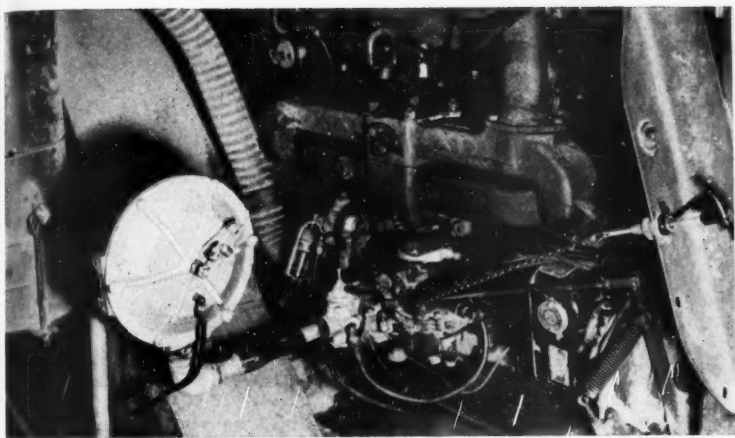
Conversion of the equipment was done by dealer Joe Ballard, of the Hemet Rural Gas Co. Mr. Ballard has changed over many types of

engines to LP-Gas and is a strong booster for its use on trucks, tractors, stationary engines and other farm engines.

Its use on the beet loading machine was a little out of the ordinary and offered a few new problems. One was the existence of two engines on the machine—one for propelling the unit from job to job, while a second was necessary for the operation of the conveyor belts



Self-propelled beet loading machine which uses butane fuel for power. Ford engine (arrow 1) provides power for moving machine from field to field. Small engine on top (arrow 2) operates conveyor belts used for loading beets. Tank shown on side furnishes fuel for both engines.



Continental engine used for operating conveyor belts, etc. This engine is small enough so that it can operate successfully on vapor if weather and load conditions remain constant. Equipment at left is atmospheric regulator.

and moving parts used in the loading operation.

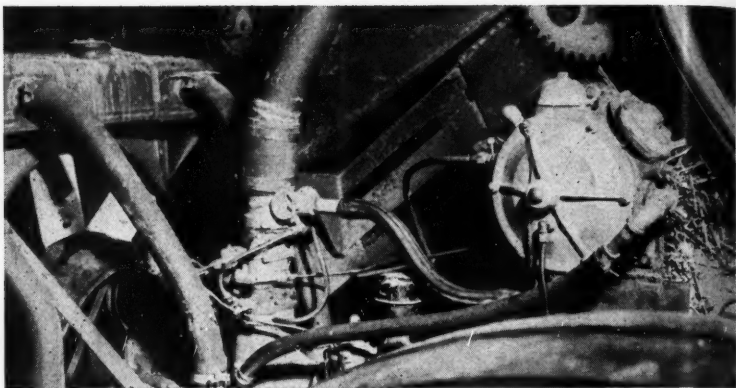
The mobile power is furnished by a standard Ford engine. This motor is near the base of the machine. The second engine is a Continental and is perched on top of the rig.

When the two engines were being changed over for butane operation it was decided to use a conventional liquid type unit on the Ford engine and a new vapor type unit on the Continental. Both units are products of the American Liquid Gas Corp., of Los Angeles, manufacturers of "Algas" carburetion equipment.

The Ford engine uses an Algas converter and a new 16 adaptor-mixer. The fuel is supplied from a tank mounted on the side of the machine. Liquid fuel is drawn from the tank and vaporized by the converter. This assures a constant flow of fuel to the 100 hp engine when it is moving the machine about the field.

The Continental engine has been converted to operate on a vapor system. Vapor is drawn directly off the top of the tank. This is made possible through the use of a new vapor conversion unit which is simpler than the liquid unit;

POWER



Ford engine propels machine to point of operation. Fuel converter is shown at right. Hoses from engine run to converter to provide heat which insures proper vaporization of liquid fuel.

however, it is limited for use on smaller engines that do not require a large fuel supply.

This method was used on the small engine in order to cut cost of installation. It has been found that conversion is faster and cheaper because no heat exchanger is necessary. It has also been found that the filling of the tank is faster as the pressure on the tank is lowered when vapor is drawn off.

The use of the vapor type conversion in this case has been most satisfactory as the engine runs at a steady load and demands a small amount of fuel. It is also pointed out that the machine is used in a climate and during the period of the year when it is always warm enough to insure vaporization in the tank. These facts must be remembered when considering the vapor unit.

Highway Conversion Station Boosts Summer Gas Sales

Through the use of automotive engines operating on butane, dealers have a chance to greatly increase summer loads. While this applies especially to tractors, finding most work to do in summer, it also applies to trucks in summer. Of course, truck business goes on throughout the year, making an even and sizable load.

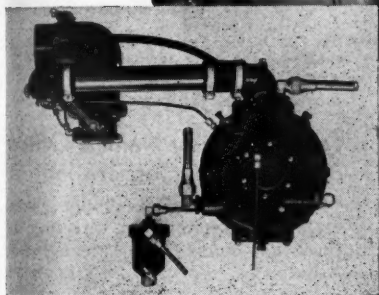
As an illustration of what can be done by a highway dealer, there is the case of Bowie Butane Gas Co., Bowie, Texas. This company has recently started service in what they term a trucker's service depot.

In this depot, Bowie Butane has dispensers for butane, diesel, and regular and ethyl gasoline. Displays of all types of butane carburetion equipment are on view to passersby and customers.

E. H. Cunningham and his son are

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450 HORSEPOWER
ENSIGN "S"
Butane Vaporizer
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Fast acceleration—sustained lugging—quiet easy idling. ENSIGN'S new Model "S" Butane Regulating Unit has more capacity than any 400 horsepower engine will ever need. To top it off, you get dependability whether in heavy traffic or on long overnight hauls.

ENSIGN carburetion for Butane-Propane, finest of motor fuels, is now ready in larger sizes. Identical to the time-proven Model "R," the new ENSIGN unit (Model "S") is simply larger with extra features for fast pickup and longer service life.

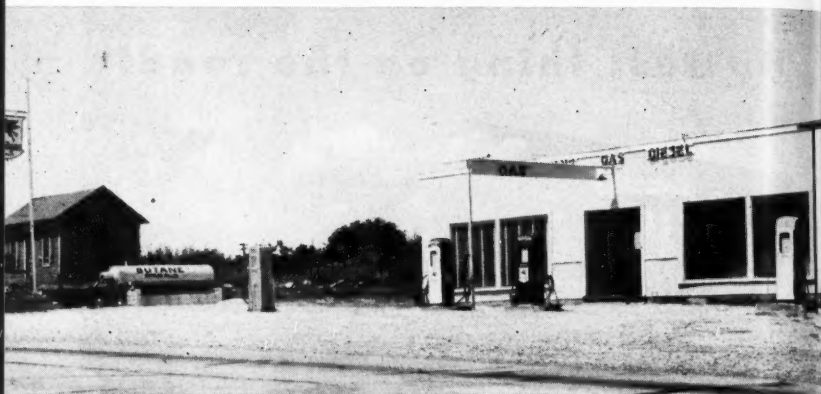
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New service station setup of Bowie Butane Gas Co., Bowie, Texas, where the company will specialize on engine conversions to LP-Gas and cater to highway trade.

owners and operators of this firm. According to them, many truckers, not familiar with butane, become curious about the fuel. The Cunninghams are able to tell these truckers the story of LP-Gas and the advantages it has as a motor vehicle fuel.

Many conversions have been made on local trucks by unique selling methods. Some of them have been made by just installing the equipment on a truck. If the operator liked the operation he would pay for it within 90 days. In the meantime, he would pay extra for his butane.

Others have been paid for by charging a few cents more for the butane—the few cents per gallon going for payment on the carburetion equipment.

The Bowie Butane Gas Co. has found this engine fuel station to be a very lucrative operation. The Cunninghams say, "The expense to us has been very small; all we have been out is the expense of leasing the building, painting it, and installing our butane pump."

Young Grigsby Named Officer Of Oklahoma Corporation

Jim Grigsby, Jr., has been named vice president by the directors of American Butane & Propane Gas Co., of Oklahoma City. The appointment was announced by J. L. Grigsby, president.



JIM GRIGSBY, JR.

Jim is the son of J. L. and has grown up in the business. He will serve in the sales department of the firm.

The younger Grigsby spent a year and a half in the army, most of the time in Japan, and a year in business college. He is finishing up a course of business administration at the University of Oklahoma at Norman.

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**That Will Build Year
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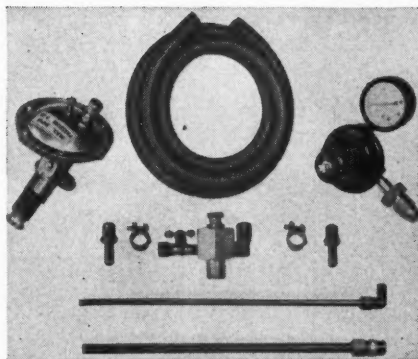
The new **ALGAS** Vapor Carburetion Kit is a complete conversion assembly for farm tractors and stationary engines up to 50 hp.

Operates on vapor drawn directly from bottle or tank. No other carburetion equipment is needed. (Gasoline use optional.)

You'll be surprised at low price of this Kit—write for full details.

AMERICAN LIQUID GAS CORP.

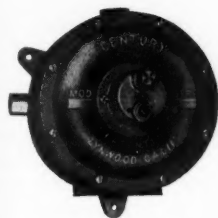
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CENTURY in use for over 20 Years

More and more owners of Tractors, Trucks and Stationary engines, are changing to LP-Gas carburetion—the better and cheaper fuel.



Converter with Solenoid
Primer Attached



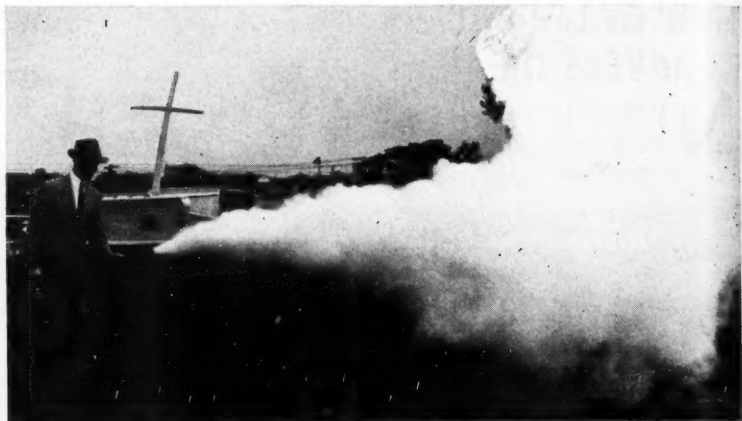
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"Oldest Manufacturer of Butane Carburetion"
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Jets of blazing propane spurting from cracked pipe flange, under 120 psi pressure, are snuffed out in a few seconds by the new Kidde dry chemical fire extinguisher.

New Dry Chemical Extinguisher Demonstrated on Butane Fire

By W. E. Morgan, Jr.

Manager, Industrial Division
Walter Kidde & Co., Inc.

A fire extinguisher that promises a new degree of protection for equipment and personnel handling liquefied petroleum gas was recently demonstrated for the first time at the proving grounds of Walter Kidde & Co., Inc., Belleville, N. J.

Known as a dry chemical extinguisher and put through its paces for representatives from industry, municipal fire departments and government officials, the new Kidde fire-fighting weapon achieved some eye-opening results in quick, safe extinguishment.

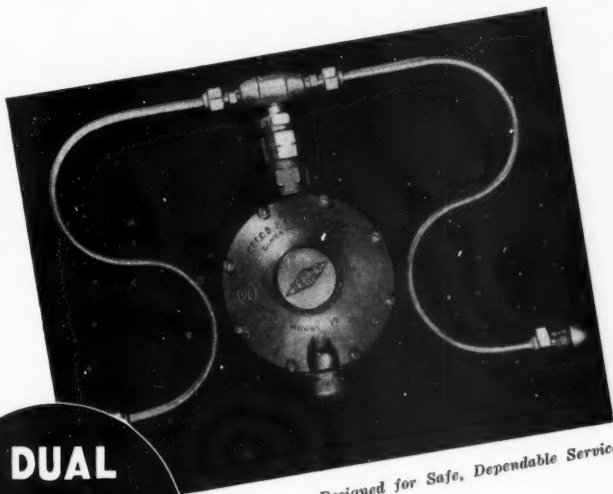
Of particular interest was the performance of the dry chemical extinguisher against a jet-like flame of

blazing propane gas shooting from a simulated cracked pipe flange. For the spectacular test, propane was piped from a series of upside-down storage tanks, as a liquid under pressure of 127 pounds per square inch, through a 1½-inch pipe to the defective flange at its end.

Pressure was controlled by a hand valve in the line, and was kept low until the propane was set afire with a sparkgap lighter. When full pressure was turned on, the propane flames roared in a plume 30 feet into the air, sending out heat waves that made approach closer than 20 feet very uncomfortable.

When the blaze reached its peak intensity, a man in an ordinary business suit carried the 20-pound capacity model of the dry chemical extinguisher into action against the fire. Within six seconds after he had pulled the trigger and released a dense, swirling cloud of fine, white powder through a 15-foot parabolic

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DUAL BOTTLE SYSTEM

Designed for Safe, Dependable Service

- ✓ **LOW COST**
- ✓ **LARGE CAPACITY**
- ✓ **DEPENDABILITY**
- ✓ **LONG SERVICE LIFE**

Specifications

Capacity—100 cu. ft. per hour
or more.

Reduced Pressure—Std. 11 in.
W. C.

Inlet Connections—At manifold
are 5/16 SAE flare for pigtails
having P.O.L. cylinder end.
Outlet Connections—1/2 in. fe-
male pipe.
Built-in Relief Valve

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Santa Monica, Calif.

path right into the spurting fire, the blaze was out.

Dry chemical, or powder, extinguishes fire principally by absorbing heat from the flames. There is some smothering action caused by liberation of inert gas when the powder partially decomposes in the fire, but this is secondary. Because its main function is heat absorption, powder also acts as an insulating screen to shield the fire fighter from the intense heat.

When dry chemical is applied by a properly designed extinguisher, it is driven into the fire with enough force to overcome updrafts caused by rising heat, and it thus gets to the very seat of the blaze. It must not, of course, be driven with so much force that it spreads the fire or burning liquid.

Dry chemical also has some residual effect in preventing reflash, especially when used on fires in shallow liquid areas, very heavy liquids, and certain fibrous materials.

Don't Use Indoors

Dry chemical should not be used indoors, where the fine powder can work its way into machinery or delicate equipment, or in areas where it can contaminate paints, chemical solutions, etc., and it should not be applied at close range to burning liquid that might splash.

Essentially, the new Kidde dry chemical extinguisher consists of two steel cylinders—the larger one containing the powder, the smaller one containing carbon dioxide under high pressure—both surmounted with a handle grip and trigger control piece to which is attached a flexible hose and nozzle.

Because of the heat-shield effect of the powder cloud, the operator can stand erect, and no stooping is required. He should always stand to the windward side of the fire, start dis-

charge of dry chemical when about 10 feet away, and get a "bite" on the near side of the blaze first.

It may be necessary to advance for complete coverage of the burning area, but all forward movement should be slow and deliberate. The most important rule in fighting flammable liquid fire with the new extinguisher is to get the dry chemical into the fire with as little waste motion and as quickly as possible.

New California Legislation Is Important to Dealers

Several pieces of legislation which are of vital concern to the LP-Gas industry in California have gone through the legislative mills at the just concluded session of the state legislature, according to Don McNary, LPGA West Coast secretary. He states further:

Assembly Concurrent Resolution No. 91 directs the state first marshal "to ascertain, study and analyze all of the facts relating to the storage, use and handling of liquefied petroleum gas; he shall, after consultation with representatives of the liquefied petroleum gas industry and the fire service of California, prepare an outline of the safety standards deemed necessary to afford a reasonable degree of public safety together with his recommendations for the enforcement and administration thereof. He shall also submit estimates on the cost of administering the regulations and an equitable plan of financing . . ." and report findings and recommendations to the legislature at its next session.

The fire marshal has given his assurance that he wishes to work with the LP-Gas industry and that any program developed will be the result of many conferences with industry

representatives and much field work by his men. The bill authorizes the expenditure of funds to carry out this study.

AB 1071 by Brown relating to the payment of motor vehicle fuel taxes on LP-Gas, which will allow dealers to qualify as distributors and purchase fuel without prepaying the state 3½-cent tax, has been signed by the Governor and becomes effective Oct. 1. The state board of equalization will inform dealers probably through a series of LPGA-sponsored dealer meetings of the workings of the new measure.

How Industry Is Affected

Assembly Bill No. 1431 by Burke, sponsored by the California Pressure Vessel Manufacturers Assn., was passed and is significant to the LP-Gas industry for what it does not do rather than what it does. It does not exempt all LP-Gas tanks to be used in domestic service from the shop inspections by State Division of Industrial Safety inspectors. This bill (AB 1431) was offered in opposition to another by the Division of Industrial Safety which would have done just that. It was felt that the results would be a flood of non-code tanks into this service with the chaotic and tragic consequences that go with bootleg pressure vessels.

This bill makes mandatory the shop inspections on LP-Gas tanks when a request is made by a manufacturer. The division's bill would have made these inspections permissive.

The bill also places reasonable ceilings on inspection fees charged by Division of Industrial Safety inspectors. The actual fees for field inspections will be set at a public hearing sometime in the next three months. They can be reduced but not raised above the ceiling. LP-Gas dealers will

be invited to these hearings. These inspections only apply to tanks used in places of employment.

Of considerable concern is the new Los Angeles city ordinance now being enforced. The city fire department is charged with enforcement and also undertook the job of writing the ordinance. They submitted the revised ordinance to industry representatives at a public hearing in June but suggested revisions which would have had any significant effect on the ordinance were not tolerated.

Examples: Permits from the Los Angeles fire chiefs are required to install, store, maintain, or use any LP-Gas cylinder in excess of 15 gallons. Furthermore, these permits must carry plot diagrams of the installations and must be renewed each calendar year.

This, of course, does not require 99% of all house trailer installations to have permits.

Tanks of 26 gallons or over must have minimum clearances from buildings and property lines of 25 feet.

Must Provide Delivery Slips

Delivery slips must be furnished by the supplier to the receiver for each LP-Gas cylinder or tank or group of such vessels filled. Each slip must state the date, place of delivery, quantity of LP-Gas, vapor pressure, and serial number of the tank filled. Copies of these slips must be kept on file for one year.

On these points, the fire department would not even allow any discussion as to their merit. All objections raised on these points were overruled with no further discussion.

Many wording and technical changes were effected but the overall ordinance remains by and large as proposed by the fire department.

The impact of this ordinance will

be seen as Los Angeles county officials have already announced their intention to adopt it. The city and county of Los Angeles often serve as models for other cities and counties of the state, especially in preparation of ordinances.

It is to be hoped that the study by the state fire marshal together with his recommendations will offset or moderate this influence.

Eastern Utility Will Install 900,000-Gal. Propane Storage

A contract for perhaps the largest installation of LP-Gas tanks to be made this year was signed July 26



PAUL
PEACOCK, JR.

by H. Emerson Thomas and Associates, Inc., Westfield, N. J., with the Connecticut Coke Co., of New Haven, Conn.

There will be a total of 30 30,000-gallon tanks in the installation. The propane will be used for enrichment of producer gas, and will serve for both peak load and base load. It will be used by Connecticut Coke in connection with supplying gas to utilities in New Haven and other Connecticut cities.

There will be 1200 feet of pipe to the vaporizers; two 2000-gallon-an-hour vaporizers, two elevated unloading towers, and two unloading compressors.

The arrangements have been handled for H. Emerson Thomas and Associates by Paul E. Peacock, Jr., vice president. Mr. Thomas, who had recently returned from a trip in Europe, was present for the signing

of the contract. The tanks will be placed at the main plant of Connecticut Coke, at the foot of Stiles Street, New Haven.

Sumner Propane Gas Organizes New Industry in Maritimes

Sumner Propane Gas, Ltd., held its first convention at the Shediac Inn, Shediac, N. B., June 20-21, with dealers and officials of the company in attendance.

M. P. Fraser, president of the company, officially welcomed the guests, and H. L. Hill, vice president, acted as chairman. C. H. Theriault, propane engineer for the British-American Oil Co., covered very thoroughly the development of the propane industry in Canada, where millions of dollars in capital expenditures have been earmarked for the immediate needs of the industry.

J. S. Stevens, vice president of Empire Brass, Ltd., London, Ont., gave a very interesting talk on merchandising methods, which was followed by a talk from J. W. Bell, manager of Sumner Propane Gas, Ltd., who carefully reviewed the subject throughout the complete handling of propane.

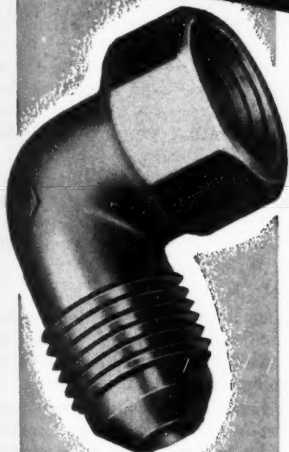
The company's future plans in regards to sales promotion and advertising were also covered.

Darrell Rivers, of General Steel Ware, covered the development of propane ranges, giving complete details of construction, servicing and maintenance. A. J. Strain, general manager of Ruud Manufacturing Co., reviewed the application of propane for water heating.

During the afternoon of June 21 the Sumner Propane Gas plant at Victory Industrial Center, Moncton, was officially opened and many people visited the plant and had an opportunity to see just how this new fuel is being handled.

... FOR SAFETY IN EVERY INSTALLATION

DEPEND ON THE QUALITY LINE ...



Imperial offers a broad line of flared tube fittings for LP-Gas installations. Listed by Underwriters' Laboratories, Inc.

insist on **IMPERIAL** **LP-GAS FITTINGS**

Accurately machined threads and seats—adequate wall thicknesses—flats for wrench hold—consistent rigid inspection are a few of the "extras" that make Imperial Flared Tube Fittings the *specialists* for tight joints in LP-Gas installations.

For safety sake use the best in fittings—insist on Imperial Flared Tube Fittings. They carry the Diamond "I" — your assurance of dependable quality.

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Chicago 7, Illinois



Bulletin No. 702-C describes Imperial LP-Gas Fittings, Tube Working Tools, Brass Pipe Fittings, Shut-off Valves and Stove Connectors. Ask for your copy.



TUBING TOOLS

For faster and better flaring, cutting, bending, swedging, reaming, etc., depend on Imperial tubing tools.



VALVES

Imperial also offers an outstanding line of shut-off valves for multiple type LP-Gas installations.

IMPERIAL

FITTINGS · VALVES · CONNECTORS
TOOLS for cutting, flaring, bending
and swedging.

PRODUCTS



Domestic Range

Caloric Stove Corp., Widener Bldg., Philadelphia, Pa.

Model: 30-in. Ultramatic.

Application: For small or combination kitchens.

Description: This new model is identical in construction with Caloric's 36-in. models. It has a 4-burner divided top and is equipped with standard broiler. The one-piece backguard and entire main top construction have been designed for maximum attractiveness.

The usual Caloric features include flavor-seal dual burners; automatic oven heat control; seamless porcelain enamel oven and broiler; seamless porcelain one-piece top; and rigid porcelain one-piece front frame.

Optional features are automatic oven time control; clock and fluores-

cent light assembly with electric outlet; manual minute minder ("CP" only); and "Observador" oven window and interior oven light. Another optional feature is the aluminum grille with basting trough which fits low over two burners.

Radiant Heater

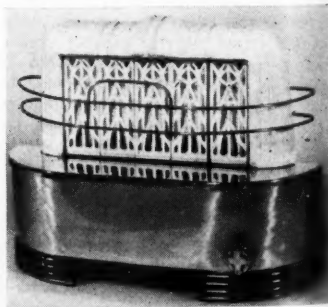
Armstrong Products Corp., Huntington, W. Va.

Model: No. 1695B.

Application: Domestic heater finished in combination of white and brass, making it suitable for living and dining room installation.

Description: This is Armstrong's "Golden Anniversary Special." The solid white backwall and radiants give the heater an exceptionally modern appearance. It is constructed of highly polished and lacquered brass.

Specifications of this AGA-approved heater include: Width, 24 in.; depth, 7 in.; height, 17 $\frac{3}{4}$ in. Btu input is 20,000.





Circulating Heater

Coleman Co., Inc., Wichita, Kan.

Model: Gas Circulating Wall Heater.

Application: Suitable for installation in homes with slab floors—or for heating second story areas—wherever space must be conserved and floor furnace installations are impractical. Also suited for upstairs heating when ground floor is equipped with floor furnaces.

Description: The heating unit is designed to fit between two standard center studs—no special construction is necessary. It has an input rating of 25,000 Btu's and warm air flow of 8000 cu. ft. per hour, enough to heat two average rooms.

The front panel measures 14 in. in width by 61½ in. in height. The casing extends into the room 3½ in.

Instantly adjustable manual control is standard equipment. Automatic controls are optional. The heater meets all requirements of AGA.

Maximum temperature at top of casing (heat outlet area) is 68°. At the area where a child could come in contact with the casing, the temperature is only 53°.

Control System

Minneapolis - Honeywell Regulator Co., Minneapolis, Minn.

Model: Y200 Powerpile.

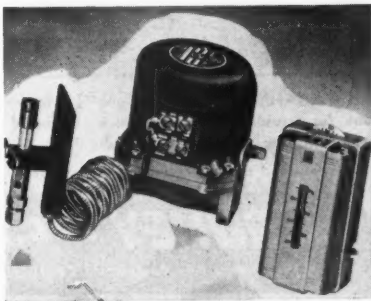
Application: A self-contained automatic control system for gas-fired heating plants which, because it generates its own electricity, may be used in non-electrified rural areas.

Description: The system generates its own electricity to operate a thermostat and automatic gas valve. It is composed of 25 thermocouples and generates 400 to 500 millivolts, although the system will operate safely on an output as low as 200 millivolts.

The system consists of three units. The heat leveling thermostat contains a heat anticipator which uses electrical energy. This device, it is said, provides extreme accuracy of control by supplying heat to the thermostat. The unit itself is bellows-actuated and uses a mercury switch to eliminate the possibility that dust or oxidation might impair the efficiency of the thermostat.

The diaphragm valve employs a self-contained, polarized relay for added power to open and close the gas flow to the burner. It may be used with all types of gas.

The Powerpile, which is encased in





Roney No. 1273
(one relief valve)

Low Cost U.L. Labeled RONEY Multiple Valve Units

Roney No. 1274
(two relief valves)

TANK FABRICATORS.

Reduce your costs and meet NFPA Pamphlet No. 58 requirements with Roney Multiple Valve Units.

The Roney No. 1273 has one relief valve; the Roney No. 1274 has two relief valves. Both units include a shut-off valve, a vapor return valve with excess flow and a liquid level gauge connection.

U. L. FLOW RATINGS

Roney No.	DWP Container	"D x U"	
		Aboveground	Underground
1273	100	11.3	37.7
1273	200	20.5	70
1274	100	21.8	73
1274	200	40.5	174

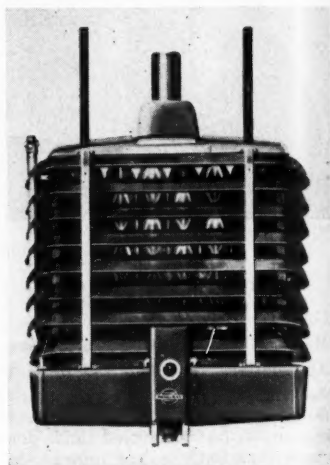
ADDED SAFETY. Two risers... one for vapor, one for liquid connections... prevent liquid from entering outlets during filling.

For cost and complete information, write:

L.C. RONEY INC.

1511 W. Florence Ave., Inglewood, Calif.

stainless steel, also contains a pilot burner. The instrument acts as its own safety pilot in case of flame failure and will shut down the entire heating plant automatically.



Overhead Heater

Day & Night Division, Affiliated Gas Equipment, Inc., Monrovia, Calif.

Model: "Overhead Panelray."

Application: The heater has been designed for heating entirely exposed areas or enclosed spaces frequently exposed to outside elements. It is suitable for industrial installations such as warehouses, factories, garages, stores and other similar problem areas.

Description: Infra-red rays for instantaneous heat are utilized. Traveling in a straight line and at the speed of light, the rays cannot be diverted by drafts or air currents.

When used in buildings which are entirely enclosed, the air is heated as

what's wrong with this picture?



NOTHING . . . except that Friend Squaw won't have to carry her old range in to you dealers. *You* are going to pick it up for her and install a brand new *Universal Gas Range* right into her wigwam.

Seriously, Mr. Dealer, could you do better than to offer one of the many different Universals to Mrs. American Homemaker during the Fall Old Stove Round-Up? She may not be as willing to bring her old range to you as the lady in the picture, but she's going to want modern excellence. She's going to want a brand name like Universal, top burner efficiency like Universal, a precision oven that bakes and roasts like Universal, and radiant broiling, with her hands and face entirely out of the heat zone, like Universal.

She wants Titanium acid-resisting enamel all over, large surfaces without cracks and corners that collect dirt, and a broiler pan she can clean in 3 minutes.

She wants skyscraper construction and Universal perfection, so that her modern range will last like her old outmoded one. She wants Universal!



Berkshire Model, with high, separate broiler



Fall is Round-Up Time

Universal offers a complete separate Old Stove Round-Up Campaign package to coordinate with A.G.A.'s National Fall Round-Up. Send to Cribben & Sexton for information.

CRIBBEN & SEXTON
Universal
LP-GAS RANGE
with Exclusive 'Comfort-Touch'

A few Dealer Franchises are still available. Write to

CRIBBEN & SEXTON CO., 700 NORTH SACRAMENTO BOULEVARD, CHICAGO 12, ILLINOIS

SEPTEMBER — 1949

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quickly as with any other type of heater and natural circulation takes place, but warm floors and working areas are kept constantly comfortable by the direct infra-red rays. By a series of louvers, the rays are directed downward. Cold spots are eliminated as floors and working tools are quickly warmed by the penetrating rays. Absence of fans or blowers assures noiseless, draftless and dustless operation.

The unit is automatic, completely vented and AGA-approved. Electrical connections and all moving parts have been eliminated. All heating surfaces are porcelain enameled inside and out.

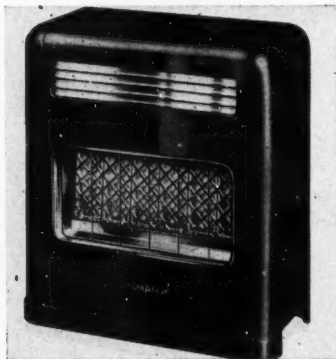
Gas Heater

Phillips & Buttorff Manufacturing Co., Nashville, Tenn.

Model: Enterprise 2500 Series.

Description: The company has supplemented its line of Enterprise gas heaters with several new, fully vented heaters ranging in size from 20,000 to 60,000 Btu input.

Bodies are pressed steel finished in lifetime porcelain enamel. Models equipped with clay radiants have heat



resisting glass panels instead of conventional mica.

Combustion chambers are heavy steel with all joints seam welded to insure gas-tight construction. All cast iron burners have individually raised ports and give optimum results with natural, manufactured or LP-Gas.

Thermostats and safety controls are available as optional equipment.



Range-Refrigerator Unit

General Air Conditioning Corp., 4512 E. Dunham St., Los Angeles, Calif.

Model: General Chef—R-1004.

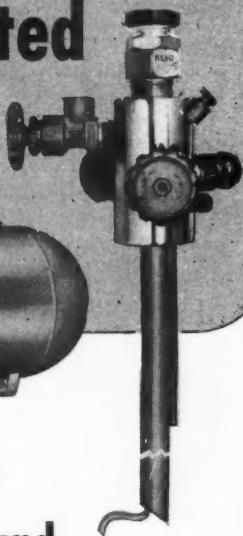
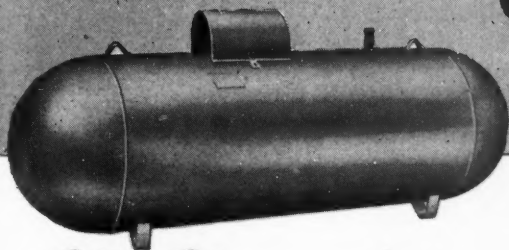
Application: Ideal for kitchenettes, motels, summer cabins, offices, or other small-space areas.

Description: This is a gas cooking and electric refrigeration combination. The four full-size burners operate on LP-Gas, natural or manufactured. Beneath the four burners is a 4-cu. ft. electric refrigerator.

Due to triple insulation, cooking heat does not affect refrigerator temperatures.

The cooking top is finished in white porcelain. The entire unit has a white

for uninterrupted
service . . .



McNamar's
**"NEW DESIGN" TANK and
HEAVY-END WITHDRAWAL FITTING**

Here is a "Twin-bill" in efficiency . . . designed to give you better service — without freeze-ups and service interruptions. The New Withdrawal Valve permits heavy ends to be easily removed at any time when the tank is under pressure—Just unscrew the valve and foreign matter will be forced out—close the valve and the system is ready for a winter of uninterrupted service. These fittings are standard equipment on all McNamar tanks of 250 gallons and larger.

Write today for more information on these two important features.



McNamar Boiler & Tank Co.

PLANT NO. 1 — BOX 868, TULSA, OKLA. • PLANT NO. 2 — BOX 206, E. ST. LOUIS, ILL.

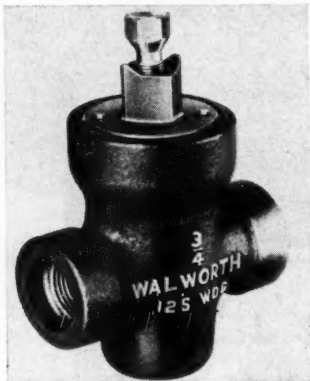
SEPTEMBER — 1949

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finish. The burners are easily removable for cleaning.

Specifications: Height, to top of grates, 39 in.; to top of back splash, 42 in.; width, 27½ in.; depth, 23 in.

The unit bears AGA-approval and UL listing.



Lubricated Service Cocks

Walworth Co., 60 E. 42nd St., New York City.

Model: High-Pressure Lubricated Service Cocks.

Application: For use with gas, oil, or water lines.

Description: These cocks, described as being practically tamper-proof, are for working pressures up to 125 lbs. Available in ¾- and 1-in. sizes, the service cocks have cast iron bodies and bronze plugs and are made with both screwed recessed ends and Dresser super-service ends.

The devices also feature the advantages of the regular type of high pressure lubricated plug valves in that the plug is always held against its seat in the body by a gland through resilient packing. This packing has

five layers—the top and bottom layers consisting of a copper-silicon-manganese bronze diaphragm; second and fourth of sheet asbestos gaskets; middle layer is of synthetic oil-proof rubber, ¼ in. thick.

The cocks are tamper-proof because a special spanner wrench is required to open and close the screw-type bronze gland at the top. Bodies and plugs are carefully fitted for tightness and are provided with a lubricant screw of cadmium-plated steel and a complete lubricant grooving system for "pressure-sealed" lubrication.

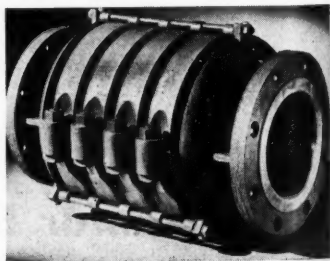
The lubricant chamber, which prevents possible back flow when lubricant screw is removed, is equipped with a spring-loaded ball-check valve of case-hardened steel with hardened steel ball and music wire spring.

Packless Expansion Joint

American District Steam Co., North Tonawanda, N. Y.

Model: Adasco "Corruflex."

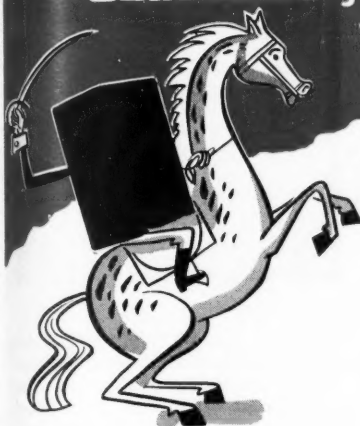
Application: The joint's design permits its use in trenches, tunnels or other cramped quarters and is an addition to the company's line of slip joints and diaphragm types of packless joints designed to absorb expansion and contraction due to tempera-



Dearborn gets there "fustest
with the mostest"

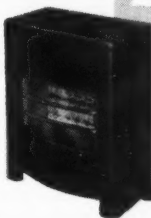
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TO SERVE YOU BETTER...to reduce your freight costs...to hasten delivery of Dearborn heaters as fast as they are produced...and to service your parts and replacement orders faster—Dearborn maintains offices and warehouses in 12 key cities, plus sales offices and factories in Dallas and Chicago. For your buying convenience while in Chicago, there is a Dearborn sales office in the Merchandise Mart, Suite 1490.

For information on the gas heater that is No. 1 in dollar volume of sales...the heater that more people ask for by name—contact the Dearborn office nearest you.



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New Centre, Mass.

Dearborn STOVE CO.

GENERAL OFFICES

1700 West Commerce Street, Dallas, Texas
Factories at Dallas and Chicago

ture changes in steam, liquid and gas pipelines.

Description: The Corruflex expansion joint requires no packing and is suited for use in remote and difficult-to-service locations. It is available in sizes from 3 to 24 in., single or multiple corrugation, with or without self-equalizing rings, single or double units, and with either flanged or welded ends. It is supplied in copper, stainless steel or other alloys, and with internal sleeves, if required.

The traverse of the Corruflex joint ranges from fractions of an inch to 15 in., and will operate under pressures from vacuum to 300 lbs. and temperatures from sub-zero to 1600° Fahrenheit.

Domestic Range

Tappan Stove Co., 250 Wayne St., Mansfield, Ohio.

Model: CPAV-669.

Description: This new model retains all the features of its predecessor, the CPAV-667, but many new features have been added.

Among these is a "crisp-chest," a storage compartment for storing foods and ingredients which must be kept perfectly dry. A cartridge of moisture absorbing material extracts all dampness and, when saturated, it can be reconditioned by placing it in the heated oven.

The chest has ample capacity for a good supply of crackers, pretzels, salt, sugar, potato chips, etc., and has a special shelf for small spice containers.

A new "Tel-U-Set" of colorful design has been added. Also new, massive door handles—chrome with gold "see-deep" center overlays.

Construction of the oven door prevents slamming, eliminating danger of pinching fingers. Also convenient



when it is desired to leave the door slightly ajar to avoid condensation.

The entire broiler drawer body may be lifted out of the range for quick, easy cleaning. It is light in weight, porcelain finished.

End Heating Furnace

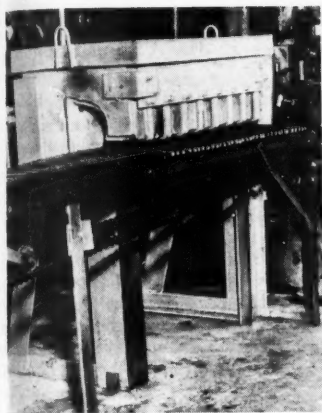
Gas Appliance Service, Inc., 1211 Webster Ave., Chicago, Ill.

Model: Roto-Flame Furnace.

Application: The furnace is used for forging, swaging, upsetting, threading and annealing.

Description: High manifold pressures, a small combustion chamber and the design of the chamber itself are reported to make this end heating furnace operate very fast. In operation, the ends of the pieces being heated are entirely enclosed in flame, limiting scale formation.

When in operation, the curved refractory section of the Roto-Flame becomes completely incandescent, with the radiant heat from this surface further increasing heat input. The shape of the refractory also serves to carry the flame inward, instead of letting it escape through the front



slot. This keeps the operator much cooler and permits the use of a conveyor.

Construction details include the use of high grade refractory materials. It is supported by a heavy structural steel frame. The unit is fired with a relatively large number of small, high pressure burners.

Circulating Heater

Chattanooga Implement & Manufacturing Co., Chattanooga, Tenn.

Model: Royal Vented Gas Circulators.

Description: Pictured is one of five new gas circulators ranging in size from 40,000 to 60,000 Btu's. They are engineered for simple operation and maintenance.

Design has been worked out to harmonize with home furnishings. Finish is dark brown, baked enamel—chip and crack proof. Corners are rounded and there are no outside bolts or fastenings.

Other features include: Manifold

connection through lower back of heater; low flue outlet, permitting inconspicuous venting close to the wall; draft diverter welded to inner combustion unit inside cabinet; scientifically engineered steel inner unit combustion chamber, seam welded.

Only one, simple adjustment is



necessary for gas and air. Large removable side panel allows easy access during installation and quick, easy adjustment of extra equipment.

These new heaters are AGA-improved and, when properly installed and vented, will not produce condensation and sweating of walls.

Dual Oven Range

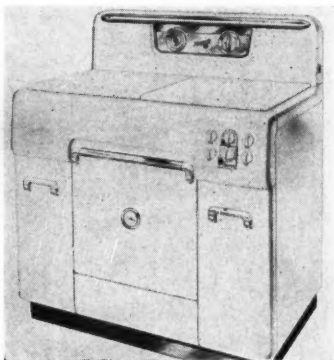
Majestic Manufacturing Co., 4550 Gustine Ave., St. Louis, Mo.

Model: Combination Dual-Oven Range.

Description: Although designed and engineered for cooking and baking performance with two types of fuel, the new Majestic has but one oven, using either fuel separately or both at the same time with no fuel change

adjustment. In addition, it heats the kitchen and supplies plenty of hot water with the easily installed water heating unit.

Providing space for eight large kettles, the top-of-stove cooking area is big enough for cooking and canning



at the same time, although it is only 24 in. deep and 42 in. wide. A new, compact valve cluster arrangement, away from oven heat, prevents valves from sticking and eliminates handle discoloration.

The extra large "Temptrol" oven is built to give economy and efficiency with two fuels. Heat indicator shows exact oven temperature with a solid-fuel fire, and the oven heat regulator accurately controls heat with gas fire, making it possible to maintain even baking temperatures at all times.

Built to give more heat from less fuel, the exclusive, new heating section circulates as well as radiates heat. The cast-iron fire box is designed for efficient combustion and new duplex grates adjust instantly to any type of solid fuel.

Incinerator

Bowser, Inc., Incineration Div., Cairo, Ill.

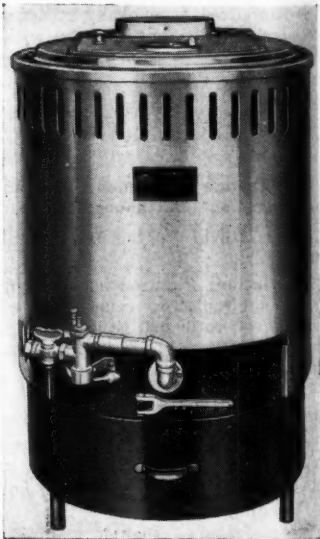
Model: Incinor Model S-20 LP.

Application: Gas-fired incineration unit for disposal of household wastes.

Description: This AGA-approved incinerator has a capacity of two bushels and is approved for use with LP Gas at high and low altitudes.

The sheet steel casing and top casting have a silicone base aluminum baked finish. The base section, also of sheet steel, is black baked enamel. Cast iron lid is insulated and has a steel heat reflecting plate. The opening is 11½ x 11½ in. and the unit is 35 in. high.

The burner is an atmospheric, ribbon-flame type, developed by Bowser especially for incineration and has a rated capacity of 12,000 Btu per hour.



BUTANE-PROPANE New

An ash drawer is provided under the cast iron grates.

All wrappers, paper, sweeper dirt, wet or dry garbage, trash or other combustible waste are burned completely in the Incinerator. Installation can be made in basement or utility room.

Domestic Range-Heater

Cribben & Sexton Co., 700 N. Sacramento Blvd., Chicago, Ill.

Model: Sheraton.

Application: Particularly suited for installation in private residences and flats where heat is not furnished.

Description: An extra large, oversized combustion chamber for rapid



room heating is provided. Other features include streamlined backrail and maintop with chrome trim strip; 12 in. fluorescent lamp; deluxe double-dial timer with split-minute settings; electric convenience outlet; one giant and three standard self-lighting top burners with simmer-save settings.

Removable porcelain cast iron thrift grates and drip trays are featured.

The large bake oven, with ribbon bar racks with stop catch, has automatic heat control integral with gas oven cock.

Rated capacity of gas heating section for LP-Gas is 28,000 Btu's. Complete safety control and temperature regulation are included with the use of a Robertshaw Unitrol unit.

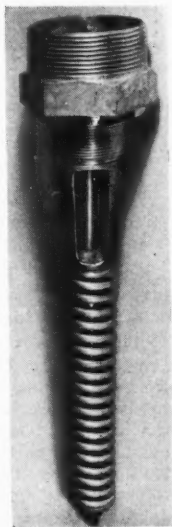
Safety Relief Valves

L. C. Roney, Inc., 1511 W. Florence Ave., Inglewood, Calif.

Model: Roney No. 2113.

Application: Specially designed for the larger LP-Gas containers. The flow ratings issued by Underwriters' Laboratories, Inc. in connection with their listing of these valves under their label service, are used to determine the maximum size container for which they will provide the required rate of discharge.

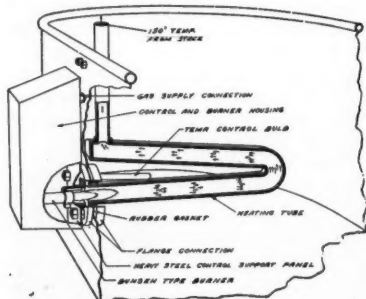
Description: This valve is designed with a 2 in. external NPT thread for the tank connection. The special design places the spring and other parts inside the container so that the body can be short to facilitate installation on truck and transport containers. The short body requires only a shallow recess to provide proper protection, or if protecting members are welded to the top of the



tank, these members need not project to an objectionable height above the tank. This feature is especially important to designers of new trucking equipment.

The one piece short body lends itself to easy installation or removal with a socket wrench in a new shallow recess or in a deeper recess. Exposed parts in top of body make for quick cleaning. The drain hole in the body prevents an accumulation of water so that the body can be hosed out to maintain clean equipment.

The top of the body is provided with 3 in. external NPT threads for pipe away discharge connections on stationary containers.



Stock Tank Heater

Johnson Gas Appliance Co., 597 B Ave. N. W., Cedar Rapids, Iowa.

Model: "Dee-Ice."

Application: The stock tank heater may be fitted to any round, straight, or corrugated tanks. A model is also available for wood tanks.

Description: This automatic, gas-fired heater increases milk and beef production because water supply, at the correct temperature, is readily available for cattle. Thermostatic controls maintain the water temperature.

The use of immersion tube and a Johnson direct jet Bunsen burner

provide economical operation. Ninety per cent of the heat is transferred directly to the water. The unit is equipped with 100% automatic burner and pilot light shutoff controls for indoor and outdoor use.

According to the manufacturer, the Dee-Ice has been designed to operate on LP-Gas and has undergone severe tests which showed that it will keep open water in tanks when outside temperature is as low as 40° below zero. A heavy metal housing protects the controls and burner from possible damage by stock or weather.

To facilitate installation, a cutting tool is supplied with each unit for providing the necessary opening in galvanized tanks.

Industrial Catalog

Condensed Catalog 292 of the Bryant Industrial Div., Affiliated Gas Equipment, Inc., describes and illustrates 33 items of gas combustion equipment.

The new catalog includes capacity and dimensional tables for combustion assemblies, gas-air and air-gas mixers, blowers and boosters, many burner types, pilot and ignition devices, controls, valves, regulators and other accessories.

It is available by writing the company, 1020 London Rd., Cleveland 10, Ohio.

Anco Catalog Issued

Anco Manufacturing and Supply Co. has recently issued more than 5000 copies of the new Anco LPG supply catalog. Over 78 pages of nationally advertised products are listed as well as pages of engineering and general information for the use of the LP-Gas dealer. Publication has been designed primarily for use of the dealer for ordering merchandise

Year in, year out
contract customers of
Phillips Petroleum Company
enjoy...

fair dealing

- ✓ HIGH QUALITY PRODUCT
- ✓ COMPETITIVE PRICE
- ✓ DEPENDABLE SUPPLY



Specialists in LP-GAS Engineering

PHILLIPS PETROLEUM COMPANY

Phillips Division

SALES DEPARTMENT

Barreilleville, Oklahoma

District Offices in Amarillo, Tex., Atlanta, Ga., Chicago, Ill., Denver, Colo., Des Moines, Iowa, Detroit, Mich., Indianapolis, Ind., Jackson, Miss., Kansas City, Mo., Milwaukee, Wis., Minneapolis, Minn., New York, N. Y., Raleigh, N. C., St. Louis, Mo., Tulsa, Okla., Wichita, Kan.

as well as an aid in selling merchandise to the ultimate consumer. Charts showing bulk plant operation as well as principles or LP-Gas transfer have been set forth in detail. A bulk plant questionnaire, order blanks, and an inserted up-to-date price list, complete the bulletin.

Anco's home office is located in Atlas Life Bldg., Tulsa, Okla.; and offices, supply stores and warehouses have been established in Omaha, Neb.; Aberdeen, So. Dak.; St. Louis, Mo.; Atlanta, Ga.; Chicago, Ill.; and Minneapolis, Minn.

A limited number of catalogs are still available and may be had by contacting the home office. Address requests to sales department.

Immersion Heating Brochure

A new two-color bulletin has just been issued by Surface Combustion Corp. showing application of the company's burners to typical immersion heating installations.

The four-page folder, complete with photographs, describes both suction and atmospheric type burners. Applications to such jobs as interrupted quenching, rust-proofing processes, cleaning diesel motor blocks, and cleaning scale from cast metal parts are presented. Useful data tables are included showing the heat requirements for water in open tanks, both dip and spray types.

A copy of this bulletin, No. SC-142, may be had from the company at Toledo 1, Ohio.

Safety Equipment Catalog

The 1949-50 issue of "Everything In Safety," E. D. Bullard Co.'s complete catalog of personal protective equipment and industrial safety devices, has just been issued. The catalog is divided into five sections, First

Aid; Respiratory Protection; Eye Protection; Hats, Belts and Clothing; Miscellaneous Safety Equipment.

Requests for catalog should be made on company letterhead and addressed to E. D. Bullard Co., 275 Eighth St., San Francisco, Calif.

Downingtown Bulletin

Downingtown Iron Works, Inc., Downingtown, Pa., plate fabrication and heat exchanger manufacturers, announce the publication of their new plate fabrication and heat exchanger bulletin.

This attractive 16-page bulletin contains lists of general facilities, manufacturing equipment, welding procedure qualifications, and standard heat exchanger construction details. It also has sections devoted to typical plate fabrication and heat exchanger examples, with story and illustrations of plant and manufacturing equipment.

Industrial Heating Catalog

A new bulletin on gas-fired air heaters and their application, latest in a series on industrial heat-treating equipment, has just been released by Surface Combustion Corp.

In this bulletin, Surface air heaters are pictured in use by automobile manufacturers for body paint-drying, and in other industries for drying and processing of chemicals, ceramic products, paper, foods, textiles, rugs, etc.

A copy of this bulletin, No. SC-143, may be obtained from Surface Combustion, Toledo, Ohio.

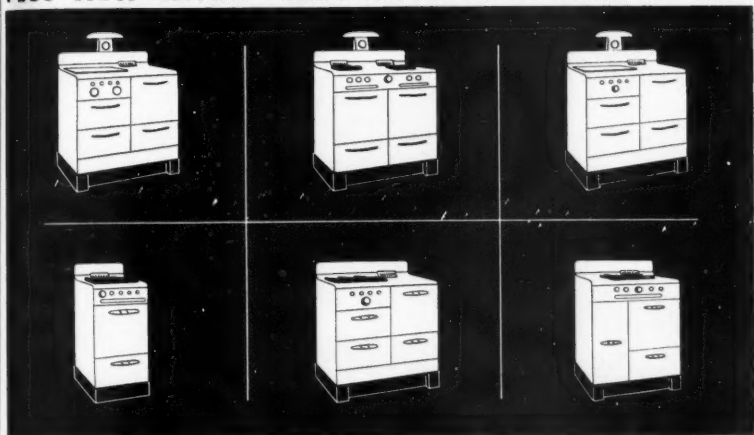
Ensign Carburetor Folder

LP-Gas dealers and operating men should acquaint themselves with Ensign's new large carburetor equip-

NEW

YES! NEW LOW PRICES

PLUS NEW EXTRA FEATURES • NEW DELUXE MODELS



WELBILT

L.P. GAS RANGES

A COMPLETE LINE FOR EVERY CUSTOMER DEMAND

- ★ THE LOWEST PRICES AVAILABLE . . . model for model, line for line, today's best budget buy.
- ★ THE WIDEST SELECTION AVAILABLE . . . every model your customers require.
- ★ THE MOST POPULAR EXTRA FEATURES AVAILABLE . . . exclusive Automatic Oven Shut-Off Control, Top Burner Covers, and more.

WELBILT STOVE CO., INC., MASPETH, L. I., N. Y.

**WORLD'S BIGGEST SELLING
POPULAR-PRICED GAS RANGE**





How AMERICAN Delivery Tanks Give You a More Profitable BALANCED OPERATION!

Adequate storage plus adequate transportation equals a balanced operation that makes money for you these 3 ways:

1. More profitable scheduling of men and equipment.
2. Less wear and tear—lower maintenance costs on equipment.
3. More gallonage with fewer trips.



"Craftsmen
in Steel"

American Delivery Tanks offer you maximum efficiency at lowest cost — dependable API-ASME code construction engineered to your specific needs — from small delivery truck to largest transport tank, truck, trailer or semi.

Write today.

AMERICAN PIPE & STEEL CORPORATION

2201 West Commonwealth Ave., Alhambra, Calif. • Cable Address: AMPSTEEL

ment designed for engines of 450 hp. New literature recently published by Ensign Carburetor Co., 7010 So. Alameda St., Huntington Park, Calif., describes and illustrates the Model "S" butane-propane regulating unit and the Model "Dg" natural gas and butane carburetor.

Cylinder Catalog

Pressed Steel Tank Co., Milwaukee, Wis., has just published a new catalog covering its line of Hackney lightweight cylinders for the LP-Gas industry. In addition to basic data on each size and type of cylinder, the booklet also includes sections on ICC requirements, testing, safety devices, markings, proper filling methods, and the care and maintenance of cylinders.

Copies of the catalog may be obtained by writing to the company.

Water Heater Service Manual Revised by AGA

Because of the substantial progress made in the design of gas water heaters and their controls since 1938, a completely revised and greatly expanded third edition of the "Gas Appliance Service Water Heater Manual" has been completed by American Gas Assn. Containing valuable suggestions for properly installing and servicing gas water heaters, the manual is a handy reference both for training purposes and for use by the serviceman in the field.

The scope of the manual has been broadened to include information helpful to persons in the LP-Gas industry. Most of the service material is applicable to all types of gases.

Part IV dealing with the specific servicing instructions for individual heaters and controls has been greatly expanded. This section contains equipment instructions for 19 typical

water heater manufacturers and 11 control manufacturers. Of these 30 manufacturers, 20 are represented for the first time, while material for the remaining 10 has been brought up to date.

Published in convenient pocket size and containing 296 pages, with 167 illustrations, the manual is available from American Gas Assn. at \$1.50 a copy. Also available at the same price are two other gas appliance service manuals in the same series: "Volume I, Gas Ranges, Fifth Edition 1947" and "Volume III, Commercial Kitchen Appliances, Second Edition 1947."

Texas Tank Fabricator Celebrates Fifth Anniversary

The Dal-Worth Tank Co., Grand Prairie, Texas, celebrated its fifth anniversary as general tank fabricators for the liquefied petroleum gas industry on Aug. 1. This firm opened its business in 1944 in a 50x60 ft. plant. In the five years since, the plant has been increased in size to 50x270 ft. A further extension is now being planned, which will add another 50x80 ft. area to the plant. The company has also built, in the five-year period, a 30x30 ft. office building to accommodate five members of the staff.

W. G. "Red" Brumit, owner, states that the company has built in five years time over 400 pieces of rolling equipment now operating on the highways of the United States, Canada and Mexico, and several thousand underground and aboveground LP-Gas systems. The company has also fabricated a large number of hot water tanks and booster tanks.

Mr. Brumit was identified with the tank fabricating industry for 21 years before starting his own company five years ago.

New Control System Will Close Main Discharge Valve

A time-consuming and one of the most annoying operations in the truck delivery of butane or propane to individual consumers, is the opening and closing of the truck's main discharge valve. There have been many instances of drivers inadvertently driving off after completing the delivery without closing this valve. Not only is this a violation of the safety regulations of many states but it creates an explosion hazard on streets and highways.

A practical solution to this problem is the "Weco-Trol" control system, a device for automatically opening and closing the main discharge valve of LP-Gas trucks. The Weco-Trol control system was developed and proved in actual field operations before being placed on the market by Well Equipment Manufacturing Corp., Houston, Texas.

A simple pull on the handle conveniently mounted on the instrument panel of the truck engages the power take-off (which starts the pump) and at the same time opens the truck's main discharge valve.

There are two cables connected to this handle. One engages and disengages the power take-off in the conventional manner, the other is connected to a vacuum control valve usually mounted on the fire wall of the truck. This valve is on a line which connects the intake manifold of the truck motor with a vacuum operated main discharge valve. When the operating handle is pulled, vacuum is admitted to the vacuum chamber of the main discharge valve which opens the valve.

When the handle is pushed in to disengage the power take-off, the vacuum control valve shuts off and relieves the vacuum, permitting the

main discharge valve to close. Since the truck cannot easily be driven while the power take-off is engaged, it is difficult to drive away after making a delivery without first closing the discharge valve. Furthermore, with the valve's operating vacuum pressure obtained from the vacuum system of the truck, the discharge valve automatically closes if the truck engine stops while fuel is being pumped.

The Weco-Trol control system has been in use by a number of LP-Gas operators for many months. In every case real savings in delivery time have resulted by elimination of manual opening and closing of the discharge valve and the full opening flow through the valve. This time saved on deliveries, amounting to as much as 20%, enables these operators to service more customers, particularly during peak periods, with their regular equipment. Full illustrated bulletin may be obtained from the manufacturer upon request.



Following the May convention of the LPGA in Chicago, this delegation of LP-Gas men from Mexico visited the Milwaukee plant of Pressed Steel Tank Co.

THE TRADE



C. K. FOSLIEN

associated with advertising agencies in Minneapolis and St. Paul. He succeeds Ray Thacker, who has taken a sales territory with Dearborn.



ARY BLOEM

Samuel Eldon McTier, a native of the Lone Star State, has joined The Bastian-Blessing Co., Chicago, as sales engineer, according to word from Ellsworth L. Mills, vice president of the company.

Mr. McTier will represent "Rego" in Illinois, Michigan, Iowa, and



S. E. MCTIER

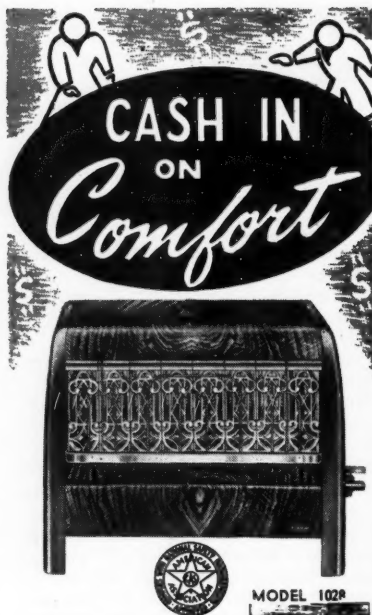
eastern Missouri, working with district sales manager H. A. Goodwin.

Ary de Azevedo Bloem has joined Bastian-Blessing in the export division of "Rego" sales, Mr. Mills also announces.

A native of Brazil, Mr. Bloem was educated in Sao Paulo, having received a degree as Bachelor of Economics, as well as one in accounting. His first trip to the United States was made in 1930. Since then he has been associated with the Lloyd Brasileire Steamship Co.; the Socony-Vacuum Oil Co., for which company he organized sales and trained agents in sections of Brazil; the aviation traffic division of Rubber Development Co., U. S. government agency; personnel director of the Technical School of Aviation, operated by the Air Ministry of Brazil; and Pan American Commerce, Inc., where he handled all phases of an import-export business, including correspondence, sales promotion, routing shipments, etc.

Harold E. Jalass, vice president and general sales manager of Cribben and Sexton Co., Chicago, manufacturer of the "Universal" gas range, announces the appointment of A. T. (Ted) Carrow as Midwest sales division manager. J. G. (Jack) Schellenberg, who formerly held this position, has been transferred to the control division as central division sales manager.

For 15 years prior to the war, Mr. Carrow was a district manager for the Universal line in the Middle West. In 1944, he organized and developed the Blue Star Bottle Gas & Appliance



All Premier Gas Heaters are A.G.A. approved for use with L.P. gases as well as natural and manufactured.

NOW—get set for brisk sales this winter with the four great Premier Radiant Gas Heaters. A.G.A. approved ratings range from 16,000 B.T.U. to 32,000 B.T.U.—just right for your market.

Cash in on comfort with these fast selling, profit-making heaters. Attractively styled—superbly finished in beautiful walnut grain.

Just a few choice dealer and distributor territories available—write for full details today!



Co., at Eau Claire, Wis. His years of experience in the gas range business will be of benefit to the city and bottled gas dealers in that area.

Mr. Carrow will have his headquarters in the Patterson Bldg., 17th and Farnum Sts., Omaha, Neb.

Mr. Schellenberg joined Cribben & Sexton in 1923 as advertising manager. Shortly thereafter, he transferred to the sales department and developed the Wisconsin and northern Michigan territory.

Mr. Schellenberg will continue to make his headquarters at the Chicago office.



STANLEY ROUSH

Edward G. Mueller, board chairman of Kerotest Manufacturing Co., has announced the election of Stanley J. Roush as president and general manager; Walter G. Swaney as vice president and secretary; R. E. Lane as treasurer.

New directors are Robert C. Downie and John D. Dupuis.

Consolidation of the commercial cooking facilities of Standard Gas Equipment Corp., Baltimore Md., and Hart Manufacturing Co., Louisville, Ky., has been announced by W. M. Smock, president of Hart, and A. J. Butchkes, executive vice president of Standard Gas.

Devoting all their efforts to the commercial cooking line, the two companies will improve and expand the Vulcan heavy duty and restaurant ranges, deep fat fryers, bake and roasting ovens, confectioners stoves; Hart restaurant ranges, stainless

HAS BEEN UNDER LOCK AND KEY—

NOW IT'S READY FOR YOU TO SEE!



lowest priced

BASE AND POST HOUSING

THE NEW
C-2-PB



HERE IS THE KEY



TO LET YOU IN ON THE LATEST

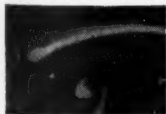
FEATURES OF THE NEW STAMPINGS'

HOUSING . . . C-2-PB

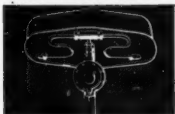
ALL OF STAMPINGS' experience in the design and manufacture of bottled gas housings has been concentrated in the development of the new C-2-PB. Now we offer you the price leader in a complete base, post and hood unit at the lowest cost we have ever achieved.

NEW FEATURES: The base is an asbestos cement combination that will last for years. Corrugated surface permits drainage. The steel post has a 3 coat baked enamel finish for extra durability. The steel post has a 3 coat baked enamel finish for extra durability. A cylinder locator on the post makes for faster servicing. The new double-action hinge has brass pin (will not rust) works very easily. This hinge also adjusts the hood automatically to proper height for various regulators.

MODERN DESIGN



EASIER SERVICING



EASY TO INSTALL



USE THIS KEY FOR
MORE INFORMATION

STAMPINGS, INC., DAVENPORT, IOWA

Gentlemen: Please send us complete details and pricing schedule on the new C-2-PB.

FIRM NAME

CITY

STATE

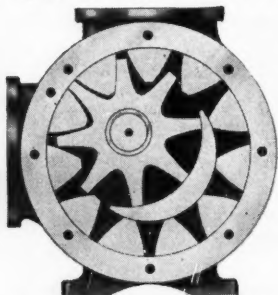


4.95

f.o.b.
factory

1000
LOT
PRICE

You Can PUMP IT WITH



VIKING Rotary Pumps

The pump that moves any clean liquid regardless of viscosity . . . that is the Viking Rotary Pump.

Its "Gear within a Gear—2 moving parts" principle gives you this service. Its rugged construction, without small intricate parts, springs, gadgets, etc., assure long dependable life.

Viking rotary pumps are engineered for the job . . . to do the work assigned them.

Ask for free folder 2300B today. Recommendations gladly given without obligation.



VIKING
PUMP COMPANY
Cedar Falls, Iowa

steel griddles and food warmers; and Thrifty luncheonette ranges and griddles.

Mr. Smock will head the new organization and has announced that no immediate changes in policy or personnel are contemplated.

In the August issue of **BUTANE-PROPANE News** a story appeared regarding the acquisition from Standard Gas Equipment of the exclusive rights to manufacture and market Oriole and Acorn domestic gas ranges by Perfection Stove Co., Cleveland, Ohio. Tools, dies, jigs, and molds were also acquired by Perfection and production will begin almost immediately in Cleveland.



H. V. BOOTES

Henry V. Bootes, formerly assistant vice president, has been elected vice president in the sales department of the **American Car and Foundry Co.** He will continue to make New York his headquarters.

Announcement is also made that James F. Clark has been elected treasurer to succeed Lester A. Blackford who has been with ACF for 44 years and is retiring from active service.

E. Carl Sorby, vice president, Geo. D. Roper Corp., Rockford, Ill., recently announced additions and promotions in the gas range division.

Walter E. Bimm has been named assistant sales manager; T. J. Reynolds, Jr., has been appointed manager of the service department; R. A.



GARLAND—THE LEADER

Costs you less to buy— less to operate

Largest production of restaurant ranges in the industry enables us to keep prices down *below comparable models!* Expert engineering and sound design that puts every cubic inch to practical use, assures *lower operating cost.*

Wide flexibility of cooking heats and a long list of convenience features helps you get greater employee efficiency and a lower cost per meal served.

All Garland models are available in stainless steel and equipped for use with manufactured, natural or L-P gases.

FRONT FIRING

High heats at the front with receding heats toward the rear. Many heats on the same top at the same time! Exclusive with Garland.

CHOICE OF TOP SECTIONS

You make up your own cooking top—specifying the exact arrangement of open grate, hot top and griddle sections you need.

THIS AD is part of the biggest advertising program in the commercial cooking equipment industry for gas-fired appliances. It appears this month in leading publications read by your customers.

GARLAND*

THE TREND IS TO GAS

FOR ALL
COMMERCIAL COOKING

Heavy Duty Ranges • Restaurant Ranges • Broilers • Deep Fat Fryers • Toasters
Roasting Ovens • Griddles • Counter Griddles

PRODUCTS OF DETROIT-MICHIGAN STOVE CO., DETROIT 31, MICHIGAN

*REG. U. S. PAT. OFF.



VESTA.. "the Ranges that sell themselves"

The full line of Vesta Gas Ranges—all A.G.A. approved—offer models to fit each customer's requirements. All features "time tested" to win the approval and acclaim of the consumer.



Divided Top

Meets need for compact space-saving unit with ample capacity.

Apartment Model

Precision made for the small kitchen.

Write today for information on our complete line of ranges LP, Natural and Manufactured Gases.

Athens Stove Works Inc.

ATHENS, TENNESSEE

Koehler, Jr., will assist District Manager R. E. MacIntosh in the New England territory; Max G. Zeller will work with Division Manager J. M. Phillips in St. Louis and Eastern Missouri, and Philip D. Kellner will work with Division Manager R. R. Chapman in Chicago.



THEO. F. LOUGHRY

The appointment of Theodore F. Loughry as sales manager of the gas production division of Surface Combustion Corp., Toledo, Ohio, has been announced by C. B. Phillips, vice president in charge of sales.

Mr. Loughry has been with Surface Combustion and affiliated companies since 1924 when he was graduated from Carnegie Tech with a B.S. in Mechanical Engineering.

After graduation, Mr. Loughry was employed in the gas division of the Public Service Co. of Colorado. He then spent 8 years at the Research Institute of Combustion Utilities Corp. in New York City in utility consulting service and market research work. This activity was particularly concentrated in the field of industrial gas production and utilization. Mr. Loughry was then transferred, in 1934, to the New York district office of Surface Combustion where he served as district industrial sales manager.

Ronald G. Johnson has been appointed sales promotion manager of the Florence Stove Co., according to an announcement made by C. Fred Lucas, vice president in charge of

Partial List of Contents

WHAT IS PROPANE? — Supply. Properties. Definitions.

THE BEHAVIOR OF GASES — Pressure. Specific Gravity. Density. Compression.

WHAT GOES ON IN A PROPANE CYLINDER? Construction. Filling.

THE SIMPLE REGULATOR — Design. Problems and Cures.

REGULATOR MANIFOLDS — Service Problems. Multiple Installations.

REGULATIONS — Equipment Selection and Installation. Domestic. Industrial. Safety.

BURNER DESIGN AND APPLICATION — Ports. Orifices. Burner Installation.

APPLIANCE CONVERSIONS — Inputs for Domestic, Commercial and Industrial Burners.

FACTS ABOUT WATER AND WATER HEATERS — The Effects of Water on Heaters. Usage Tables.

TYPES OF WATER HEATERS — Installation. Safety Devices. Efficiency.

DEALERS, SALESMEN, SERVICEMEN

Are you closing the door to future sales by giving incomplete answers to your prospect's questions? Can you compare butane-propane costs and safety with electricity in your area?

BUILD YOUR FUTURE EARNINGS BY LEARNING THE FACTS TODAY. The Bottled Gas Manual provides 352 pages of easy-to-read information on selling and servicing LP-Gas and appliances.

Order Your Copy Today

Price is \$4.00 per copy. We pay postage on orders accompanied by check or money order. In Calif. add 12c for sales tax.

BUTANE-PROPANE News

198 S. Alvarado, Los Angeles 4, Calif.

LP-GAS PIPE LINES — Friction. Sizes. Formulas. Charts.

TESTING FOR LEAKS AND ADJUSTING BURNERS — Flame Characteristics. Servicing.

FUNDAMENTALS OF THERMOSTATS — Types. Service. Expansion of matter under heat.

PILOTS AND PILOT CONTROLS — Types. Causes of Failure. Adjustment. Safety Pilots.



THE BOTTLED GAS MANUAL

SELECTING AND INSTALLING WATER HEATERS — Demand Analysis. High Bill Complaints. Service Problems. Peak Demands.

COMPETITIVE FUELS — WOOD, COAL, OIL. Heat Content. Efficiency. Competitive Figures.

COMPETITIVE FUELS — ELECTRICITY — Rates and Refrigeration. Meeting Electrical Competition.

COMPETITIVE FUELS — ELECTRICITY — COOKING AND WATER HEATING — Operating Costs. Fire Hazards. Relative Merits.

GAS LIGHTING — Law Governing Transmission of Light. Relative Costs. Value to Industry.

SPACE HEATING — Estimated Requirements. Proper Sizes. Types of Heating Equipment.

THE TOOLS OF OUR PROFESSION

L-P GAS MEN KNOW IT'S

RECTORSEAL # 2

for "LEAK PROOF" CONNECTIONS



LP Gas men use Rectorseal No. 2 because they know that safe, trouble free installations save money, time and worry!

More and more they are making Rectorseal No. 2 a standard because it meets all the requirements of a perfect sealant—it never sets hard—dries out or becomes brittle. It retains its plastic elasticity for the life of the connection. It's easy to apply—economical . . . and is proved by 11 years service in the Production Division of the Oil Industry. Available in pints, 1/2 pints and 1/4 pints.

Ask your jobber for Rectorseal No. 2 in the size you prefer. If he doesn't have it, write us direct and give us his name and address. Your order will be promptly filled.

Write RECTORSEAL, Dept. A
2215 Commerce St., Houston 2, Texas

RECTORSEAL # 2

Patented Trade-Mark Reg. U. S. Pat. Off.

MAKING THE L-P GAS INDUSTRY SAFER

sales. As sales promotion manager Mr. Johnson will head a newly created department which is part of the sales expansion program at Florence.

Announcement has also been made of the appointment of Charles O.



R. G. JOHNSON



CHAS. O. SLABY

Slaby as sales manager, Heater Division, of Florence Stove Co. He will maintain his headquarters at Gardner, Mass.

Mr. Slaby's newly-created position with Florence is an outgrowth of the company's accelerated sales program. In his new post Mr. Slaby will be responsible for sales of the recently introduced line of Florence gas heaters in all six sales divisions of the company.

The Ward Manufacturing Co., Fort Wayne, Ind., has received approval for its winter air conditioning unit from the AGA Testing Laboratories, of Cleveland.

Charles A. Young, who has represented American Stove Co. in the New York area since 1910, will retire as Eastern sales division manager Sept. 1 at the age of 70, according to an announcement by Marc W. Pender, vice president in charge of sales.

Mr. Young is a familiar figure in

SUB-DEALERS!



Build **BIGGER** Profits with your own Bulk Plant

WHY NOT have your own bulk plant and cash in on *all* the profit in today's growing LP-Gas market? There's no need to depend on middlemen . . . no need for costly trucking and handling expenses. Make your plans today and PGC's skilled engineers will design, construct, equip and fuel your complete bulk plant within 45 to 60 days. Then watch the new business roll in . . .

watch the overhead dwindle.

Pacific Propane is always available for spot shipment or contract, and ample tank cars are ready to deliver to you any place in the nation. In addition, PGC has available bottles, tanks, vaporizers and other LP-Gas equipment. If you are interested in a PGC distributorship write your nearest PGC office for full information. Don't wait. Do it today!

PACIFIC FINANCE PLAN available to acceptable Dealers and Bulk Plant Operators

Pacific Gas Corporation

SPECIALISTS IN LP-GAS AND EQUIPMENT

Rockefeller Center, 630 Fifth Avenue, New York 20, N. Y.

28 N. Wacker Drive
Chicago 4, Illinois

315 Oil & Gas Bldg.
Dallas, Texas

522 Market Street
San Francisco, California

**THESE EXCITING PEERLESS SALES
AIDS ARE CREATING VAST
CONSUMER DEMAND**

NEWSPAPER MATS • • • DISPLAY CARDS
LETTER STUFFERS • • • CATALOGS



**Peerless
SALES SOAR ON
GAS CIRCULATORS, HEATERS
UNIT HEATERS**

*Where wide awake dealers use
these effective sales aids*



DO YOU HAVE YOURS?...
**ACT NOW—CALL YOUR DISTRIBUTOR
OR WRITE US TODAY**

Peerless

MANUFACTURING CORP., LOUISVILLE 10, KY.

the gas industry. He has long been active in the American Gas Assn. and the New England, New Jersey, and Pennsylvania gas associations.

Eight major personnel changes in American Stove Co. were announced recently by President Arthur Stockstrom. They are:

Retirement, at age 73, of Thomas M. Sourbeck, manager of the company's division at Lorain, Ohio.

Resignation of Stanley E. Little, vice president in charge of sales, to become the new manager of the company's Lorain division.

Election of Marc W. Pender, of St. Louis, as vice president in charge of sales. Mr. Pender formerly was market research manager.

Resignation of George E. Baker, of St. Louis, from the office of treasurer, because of ill health.

Election of Clark P. Fiske, of St. Louis, as treasurer.

Election of F. Vern Semple, of St. Louis, former chief accountant, as assistant secretary and assistant treasurer, Mr. Fiske's former position.

Election of Harold H. Gearhart, former accountant, as controller, a new office in the company.

Resignation of Lloyd C. Ginn, advertising and sales promotion manager.

American Stove Company has its home office at 1641 S. Kingshighway Blvd., St. Louis. It operates factories in St. Louis; Cleveland; Lorain, Ohio; Harvey, Illinois; and Indianapolis.

The J. C. Pitman Corp. announces that it has received the AGA Testing Laboratories approval for the company's new "Frialator." The Frialator is now equipped with an "Area" burner which, it is claimed, cuts fuel costs through improved flame and heat distribution.

All types of gases can be used with

*Nothing
Could Be
Finer...*

**For Use With
Liquefied
Petroleum Gases**

**You Sell Them Fast
When You Feature
JEWELS OF
COOKING
PERFORMANCE**

- ☀ "Staggered" Top
- ☀ "Simmer-Speed" Burners
- ☀ Infra-Red "Glo" Broiler
- ☀ "Insta-Flame" Lighters
- ☀ Big "3-in-1" Oven

Now, more than ever before, you need a range that has all the answers to competitive selling. Ask about the complete ROPER line. You'll find that "Roper's Got It".

ROPER

Gas Ranges



ILLUSTRATING "STAGGERED"
TOP ON ROPER MODEL 9-7304

SEALS OF



APPROVAL

GEO. D. ROPER CORPORATION

ROCKFORD, ILLINOIS

"Take that Plumber in Your Town"

• **YES** ...take any plumber in your town and you will find sales for the Mutual 2A Furnace. They're easy to sell because they do the job better.



YOU WILL BE AMAZED . . . at the gas load you can build with industrial users. Try a few and you will be "sold" as have many LP-Gas dealers that went after this lucrative market.

The Mutual Line includes torches and and burners for all types of industrial jobs.



New 1949 Catalog

Mutual

LIQUID GAS EQUIPMENT CO., Inc.

3600 W. Imperial Highway, Inglewood, Calif.

this new burner. Conversion from one type to another is simple. A single orifice plug is all that must be adjusted. When LP-Gas is used an automatic safety pilot is required.



E. J. BJORENSEN

representative for the Southeastern states.

According to William A. Raub, vice president and general manager of Griffiths, who made the appointment, Mr. Bjorenson has completed intensive factory training and is already calling on the trade in his territory.

E. F. Griffiths Co., Philadelphia, manufacturers of conversion parts and other components for the gas industry, has appointed **E. J. Bjorenson,** with headquarters in Orlando, Fla., as direct factory representative



ROBT. A. SPECHT

petroleum, gas and steel industries.

In making this announcement, Carroll M. Baumgardner, vice president for sales, reported that Mr. Specht had set up divisional sales headquarters at 60 East 42 St., New York City.

Mr. Baumgardner states that the

Robert A. Specht has been appointed manager of a new "heat transfer division" which **The National Radiator Co., Johnstown, Pa.,** has created to handle the design and sales of heat transfer products for the chemical,

JOHNSON INDUSTRIAL BURNERS



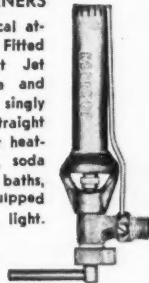
DRILLED PIPE BURNERS

These burners are designed for use in sterilizers, Japanning ovens, lard rendering vats, smoke houses, core ovens, etc., as fireplace lighters, and for removing static electricity from paper in print shops. Equipped with combined mixer and cock. $\frac{1}{2}$, $\frac{3}{4}$, 1, $1\frac{1}{4}$, $1\frac{1}{2}$, and 2 inch pipe sizes in various lengths. 8000 to 106,000 B.T.U.'s per hour.

Write for complete catalog describing all JOHNSON burners, torches, valves, furnaces and blowers.

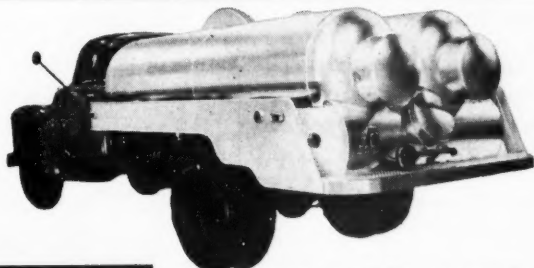
JOHNSON Direct Jet Type "A" AUTO BLAST BUNSEN BURNERS

The most efficient and economical atmospheric type burners made. Fitted with Johnson patented Direct Jet Orifice Regulator for accurate and easy adjustment. May be used singly or mounted in gangs on straight manifolds or circular cores. For heating melting pots, candy, lard, soda or other caldrons; for tinning baths, heat treating, annealing, etc. Equipped with shut-off valve and pilot light. No. 6—9,000 B.T.U.'s No. 5—13,000 B.T.U.'s. No. 14—26,000 B.T.U.'s



JOHNSON GAS APPLIANCE CO.

597 E AVENUE N.W., CEDAR RAPIDS, IOWA



Standard Model Twin-Barrel Truck Unit

- An unusually well balanced, light weight, low centered assembly, low in cost. Arranged for full visibility to the rear. Rear deck bumper assembly is heavy and rugged. Tanks are heavily under-coated and painted with fast drying aluminum paint.

**Specifications: 1206 Gallons
U-69 or U-201 Construction**

**MOTOR FUEL TANKS • DOMESTIC TANKS • SPHERES • STORAGE
ANHYDROUS AMMONIA TANKS • TRAC-TOR CUSTOM TANKS**

North Texas Tank Co.

**P. O. Box 519 • Phone 146
DENTON, TEXAS**



LP Gas Service Products

- **Double Seal
Copper Tube Fittings**
- **Elbow Adapters**
- **Manifold Fittings**
- **Copper Tubing and
Manifold Fittings
for Multiple Cylinder
Installations**
- **Gas Stops**

*Folder 101-P Illustrates
and Describes Hays LP
Gas Service Products.*
WRITE FOR YOUR COPY

**HAYS MANUFACTURING CO.
ERIE, PENNA.**

new heat transfer division will promote the sale of the company's current line of cast iron condensing and cooling equipment, plus shell and tube heat transfer apparatus, pressure vessels and related equipment.



**DANIEL J.
BROGAN**

Word has been received of the sudden death of **Daniel J. Brogan**, of the **G. S. Blodgett Co., Inc.**, Burlington, Vt.

Mr. Brogan has been prominent in activities of the Liquefied Petroleum Gas Assn., of which he was a director

last year, and has presented many excellent papers at industry conventions upon the subject of commercial selling.

Death occurred from a heart attack on July 6 in New York City. At the time of his death, he was sales manager of the company and 50 years of age.



M. R. WADDELL

Milford R. Waddell, industrial and public relations director for **Black, Sivalis & Bryson, Inc.**, was elected a vice president of the National Industrial Advertisers Assn. at the annual convention in Buffalo, New York, June 14.

He was also appointed membership chairman for the coming year.

As vice president, Mr. Waddell will

PILE UP PROFITS — LESS COMPETITION
NO TRADE INS WITH
CALCINATOR
GAS FIRED
AUTOMATIC DISPOSAL
UNIT



- The smartest of modern gas appliances
- Automatically disposes of garbage and all burnable refuse on the spot.
- Convenient, sanitary, economical and easily installed.
- A.G.A. and U.L. approved.

Calcinator Division, Valley Welding and Boiler Co., Bay City, Michigan



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Enter my subscription to BUTANE-PROPANE NEWS to begin with the next issue.

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NAME _____ POSITION _____

COMPANY _____

STREET

CITY

ZONE

STATE

Liquefied Petroleum Gas

Cities Service Oil Co.

•

A DEPENDABLE SOURCE
UNIFORM PRODUCTS
A CAPABLE SUPPLIER
TWENTY YEARS' EXPERIENCE

•

IN LP GAS ALSO

CITIES SERVICE
MEANS
GOOD SERVICE

•

CITIES SERVICE OIL CO. (Del.)

•

BARTLESVILLE, OKLA.
CHICAGO, ILL.

Other Sales Offices

Cleveland
St. Paul

Kansas City
Toronto

represent the Central Middle West on the executive board of NIAA, the oldest and largest group of advertisers in the United States.

W. W. (Woody) Pyeatt has rejoined Black, Sivalls & Bryson and will direct the company's New Orleans sales office. Until about a year ago, Mr. Pyeatt was with BS&B's engineering department at Oklahoma City before engineering operations were centered in Kansas City.



GEO. D. WELLS, Jr.

Caloric Stove Corp. has appointed George D. Wells, Jr., Topeka, Kan., as factory sales representative in Kansas and western Missouri. The appointment was announced by Julius Klein, Caloric vice president and director of sales.

Mr. Wells is the son of George Wells, Sr., new business manager for The Gas Service Co. at Topeka.

The 139th anniversary of the continuing production of iron and steel plate on the banks of historic Brandywine Creek in Coatesville, Pa., was observed July 2 by Lukens Steel Co.

The occasion was unique for the reason that the company since its founding in 1810, has been under an uninterrupted line of family ownership and management.

Three descendants of Isaac Pen-nock of the "founding family," still active in Lukens management, serving as officers and directors are: Charles Lukens Huston, first vice president; Charles Lukens Huston,

Dal-Worth

IS SMALL ENOUGH TO
KNOW YOU—
LARGE ENOUGH TO
TAKE CARE OF YOU!

Officials of this company have 26 years of "know-how" gained in designing, laying out, constructing and supervising many thousands of tanks.

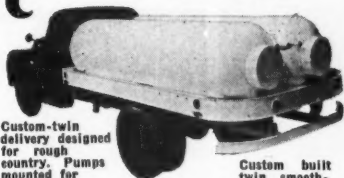
Dal-Worth Tank Company in the past five years has built over 400 pieces of rolling equipment now in operation on the highways of the United States, Canada and Mexico.

- Safety engineered throughout
- Patented "Sealed-Dome" if desired for underground systems
- Designed to fit your job
- LOWEST COST PER GALLON CAPACITY

DAL-WORTH TANK CO.

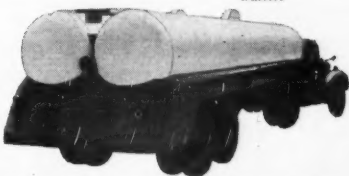
GRAND PRAIRIE, TEXAS

Bring your tank problems to us
—we'll solve 'em!



Custom-twin delivery designed for rough country. Pumps mounted for high clearance.

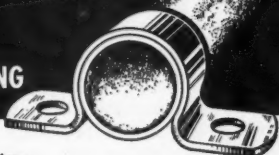
Custom built twin smooth-shell tank trailer.



maco

SNAP-ON COPPER TUBE CLIPS

LEAVE BOTH HANDS FREE FOR FASTENING



At Leading Wholesalers Everywhere

STRAP HANGERS

Economical, rustproof hangers of 1/8" strip... adjustable for all sizes of tubing or pipe 1/4" O.D. and up.

PERFORATED STRAP

Adaptable for 1000 uses... copper strap for hanging pipes, tanks, etc.

COPPER STAPLES

Quicker, cheaper, installation makes these MACO Staples one of the industry's most popular lines.



An exclusive MACO design, the "snap-on" tube clip, has the lower portion formed "in" to slightly less than the tube diameter so that it snaps on and stays... leaving both hands free for fastening. Available in 1/4" through 2 1/2" O.D. tube sizes.

Literature & Prices Available on Request

MADISON Products
COMPANY, Incorporated
EAST GREENWICH, RHODE ISLAND

Superseal

Gas Appliance Connectors



1
Connect Superseal
fitting to range



2
Connect tubing
to fitting



3
Make connection
to wall outlet



4
Push range
into position



QUICK, EASY, COMPACT
... neat, flush-to-wall installations every time—that's the Superseal Connector way. These complete assemblies of .049" wall aluminum or brass tubing and heavy hex malleable iron fittings are available in any combination of elbows, straight fittings or shut-off valves, as required. Connectors are approved by Underwriters' Laboratories and the American Gas Association.

**COLUMBIA MALLEABLE
CASTINGS CORP.**

SUPERSEAL CONNECTOR DIVISION
COLUMBIA, PA.

Jr., vice president and executive assistant to the president, and Stewart Huston, secretary.

F. S. Cornell has been named manager of the water heater division of the A. O. Smith Corp., according to an announcement by L. B. Smith, vice president of the company. Mr. Cornell had been assistant manager of the division which operates the Kankakee Works of the company at Kankakee, Ill.



F. S. CORNELL
Works of the company at Kankakee, Ill.

Prior to Mr. Cornell's move to Kankakee last spring, he had gained wide administrative experience at the Milwaukee Works, serving on a variety of manufacturing, planning, research and sales committees.

Mr. Smith will return to the Milwaukee headquarters where he will assume administrative duties in the management of the company.

Burrell Technical Supply Co., Pittsburgh, Pa., has amended its charter with the state of Pennsylvania in order to conduct its business in the future under the name of Burrell Corp., according to R. M. Arnold, general manager.

This company has supplied technical equipment and services to the petroleum and allied industries for many years.

Beacon Petroleum Co., headquartered in Tulsa, has moved its offices

Butane & Propane

E

Producers of high quality
Liquefied Petroleum Gases Since 1931
Wholesale Only

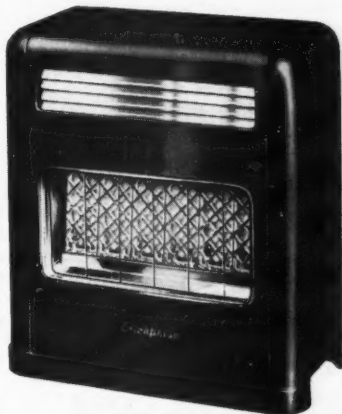
THE CARTER OIL COMPANY
T U L S A , O K L A H O M A

COMPARE
the **VALUE** and the **PROFIT**
Offered by

Enterprise

Gas Circulator Heaters

Beautiful vitreous porcelain finished heaters, vented or unvented, especially designed for LP gas, and engineered to give customers the utmost in value and you the utmost in profitable dealership. Write for catalog sheets, specifications and prices.



Phillips & Buttorff
MANUFACTURING COMPANY
NASHVILLE, TENN. • ESTABLISHED 1858

*20,000 to 60,000 BTU

*AGA approved



WE CAN'T PREDICT THE FUTURE

We can't predict what prices will be for Butane and Propane in the distant future BUT we can tell you that our prices will always be competitive and that our company will always maintain a personal interest in the problems of our customers as we have in the past.

Our company is always available to help with any operating problems that may arise. We feel that past experiences with satisfied customers might enable us to also be of benefit to you.

*For Highest Quality
BUTANE and PROPANE
contact*

Athens

PETROLEUM CORP.

McBirney Bldg. Phone 3-7133
Tulsa, Okla.

from the Wright Bldg., Tulsa, to air-conditioned accommodations at 902 Daniel Bldg. J. S. Feroe is president of the company and R. E. Bolinger and H. R. McFarland are vice presidents.

Within the current year the company has also established a branch office at 53 West Jackson Blvd., Chicago. Edward C. McLean has charge of that office.



ED. C. HEMES

Edward C. Hemes has been appointed manager of the diaphragm division for the Vulcan Proofing Co., in charge of production and sales.

During the past three years, Mr. Hemes has been promoting the sale of synthetic meter and regulator diaphragms in the Midwestern states. Prior to his affiliation with the Vulcan Proofing Co., he was employed for 19 years by the Milwaukee Gas Light Co.

D. D. Piper, executive vice president and director of sales for Norman Products Co., Columbus, Ohio, announces several new additions to the sales staff in an expanded program. The company manufactures the Norman "Southerner," horizontally designed forced air gas furnace, the Norman gas-conversion burner, and the Norman twin-fuel combination gas-oil conversion burner.

Henry J. "Harry" Mandel has been appointed Eastern division manager with headquarters in New York; George P. Mandel will be Midwestern

HEMISPHERICAL HEADS

FOR STORAGE TANKS AND UNFIRED PRESSURE VESSELS

API-ASME CODE

One Piece Type in—15"—16"—19"—24"—28" Outside Diameter
38"—40½"—48" Inside Diameter

Segmental Type in—48"—57½"—60½"—76½"—
108"—126" Inside Diameter.

Write for our Tank Head Catalog

THE COMMERCIAL SHEARING & STAMPING CO.

P. O. Box 719

Youngstown 1, Ohio

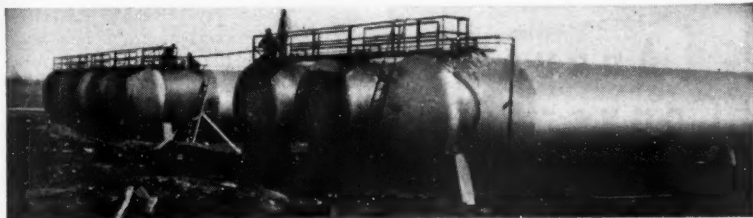


Photo Courtesy of H. Emerson Thomas & Assoc.

"One of the Finest Plants in the State of Ohio" *

The above photo shows a very fine installation of DOWNINGTOWN Tanks for Propane Storage . . . which was made at the plant of Lustron Corporation in Columbus, Ohio.

*The quoted head is an excerpt of a letter from the State of Ohio, Dept. of Commerce, Division of State Fire Marshal, Columbus, to H. Emerson Thomas and Associates, Westfield, New Jersey (who designed and installed this installation for Lustron).

We of DOWNINGTOWN, having manufactured the Tanks, consider the quotation from this letter to be an excellent tribute. To fabricate work satisfactorily as above pictured, it is necessary to know proper welding procedures; correct choice of welding electrodes for various types of metals, etc.

To accomplish this purpose, Downingtown has pre-determined welding procedures (which are constantly checked and improved); a welding supervisor, X-Ray and other technicians studying materials and methods.

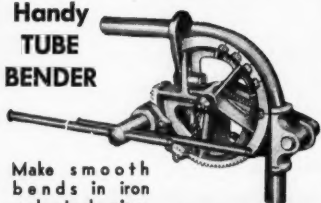
Our experience and research in the fabrication of various grades of Carbon Steel, Stainless Steels, Nickel-Clad, Stainless-Clad, Monel Clad, Cupro-Nickel, Aluminum, etc., may be of help to you. We are fully equipped, with the most modern facilities to handle complete jobs, within our limitations, in the correct alloys and methods of fabrication required to assure operating efficiency.

We also maintain a Heat Transfer Division under the direction and supervision of men thoroughly trained and experienced in this field. Our Engineering Consultation is at your service to aid you in preparation of plans and specifications for definite jobs.

Downingtown Iron Works, Downingtown, Pa.
NEW YORK OFFICE—30 CHURCH ST.

**Bend it RIGHT—
right on the job!
with a HOLSCRAW**

**Handy
TUBE
BENDER**



Make smooth bends in iron and steel pipe, conduit, or copper, brass, and aluminum tubing. Available in sizes to bend pipe or tubing of $\frac{3}{8}$ in. O.D. to $1\frac{1}{8}$ in. O.D. Shown above, model B4-8 for $\frac{1}{2}$ in. O.D. Tube, \$8.50 F.O.B. Evansville, Ind.

HOLSCRAW BROS., INC.

406 Willow Road - Evansville 11, Indiana

Annual Convention

for bulk operators

Jefferson Hotel
St. Louis, Mo.

September 19-20

National Butane-Propane Assn.

846 Builders Exchange
Minneapolis 2, Minnesota

division manager covering Ohio, Indiana, and Illinois; and Russel G. Dawley is the new sales engineer for Norman.

Election of Wm. A. Marsteller, Chicago, and Robert P. Melius, Milwaukee, as vice presidents of Rockwell Manufacturing Co., Pittsburgh, is announced by W. F. Rockwell, Jr., president.

Mr. Melius has been with the Delta Manufacturing Division for 19 years, and has been sales manager of the Delta Division since 1935.

Mr. Marsteller for the past several years has been manager of advertising and market research for the company.

Roy R. Bush has been appointed special representative for the Nordstrom Valve Division, Rockwell Manufacturing Co.

In making this announcement, A. J. Kerr, vice president of sales, stated that Mr. Bush's activities would be national in scope and aside from aiding the regular sales force on major projects would work with customer personnel on methods and routines of maintaining and servicing Rockwell products.

Roy Bush joined the company's sales staff in July, 1934, and has been assigned to Tulsa district office ever since.

Appointment of Ellsworth Simms as chief engineer of Estate Heatrola Division, Noma Electric Corp., Hamilton, Ohio, is announced by Cecil M. Dunn, general manager.

In this capacity Mr. Simms will be responsible for supervising and coordinating the design and development of all Estate products.

Mr. Simms has been associated with Estate for 20 years.